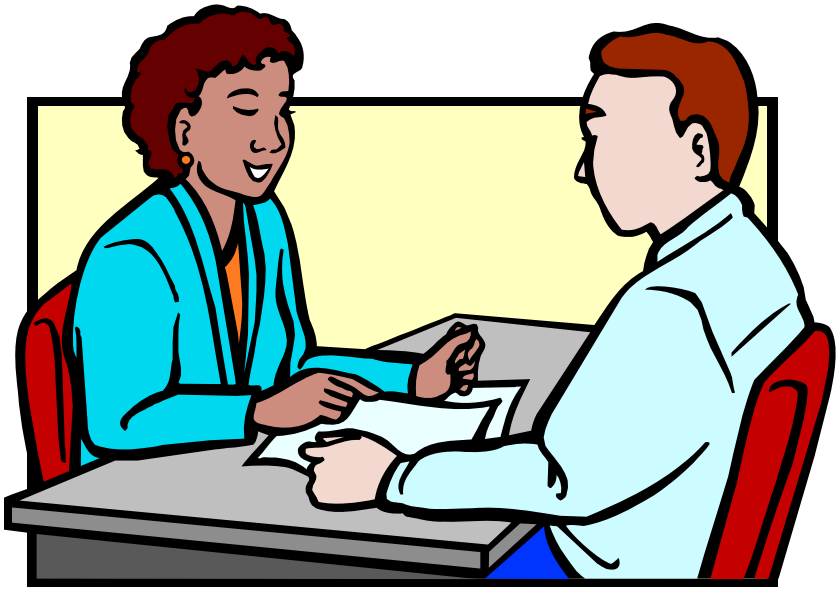
State of Michigan
Jennifer M. Granholm, Governor

Department of Environmental Quality

Steven E. Chester, Director
INTERNET: http://www.michigan.gov/deq

Clean Water Revolving Funds (SRF & SWQIF) Project Plan Preparation Guidance



Prepared by:
Revolving Loan and Operator Certification Section
Environmental Science and Services Division
Michigan Department of Environmental Quality
P.O. Box 30457
Lansing, MI 48909-7957
517-373-2161

October 2007

CLEAN WATER REVOLVING FUNDS
PROJECT PLAN PREPARATION GUIDANCE

TABLE OF CONTENTS

PAGE

I. Introduction

A loan applicant's project plan is the important first step towards obtaining Clean Water Revolving Funds loan assistance. The Michigan Department of Environmental Quality (MDEQ) encourages applicants to start project plan development as early as possible, ideally 10 or more months prior to the July 1st submittal deadline. A pre-project planning meeting between the MDEQ staff, the involved municipalities, and their consultants is an excellent opportunity to discuss project plan contents and program requirements.

This manual is intended as detailed guidance to potential loan applicants and their consultants to help assure that they fulfill federal and state requirements governing project plan preparation. While this manual is not regulatory in itself, it is intended to describe more fully the requirements found in the state rules and statutes that govern the State Revolving Fund (SRF) and the Strategic Water Quality Initiatives Fund (SWQIF) programs. The applicant's final project plan must address all of the elements identified in state law (MCL§324.5303) and its attendant rules (Mich. Admin. Code R323.952). A copy of these rules can be found at http://www.michigan.gov/orr/0,1607,7-142-5698---,00.html.

While Michigan has reduced the number of obstacles to obtaining financial assistance for wastewater projects, these programs remain environmental protection programs, focused on correcting water quality problems rather than accommodating anticipated development. Not only are certain issues required to be addressed by federal mandate, but basic analyses must also be accomplished to ensure that proposed projects indeed protect and enhance the environment. It should be noted that this guidance was prepared to address a wide variety of potential projects; not every issue within this guidance is necessarily relevant to every project. However, when items are pertinent to the project at hand, they must be addressed at a level of detail appropriate to the complexity of the issue and the scope of the proposed project.

Please also note that your project plan should examine and prioritize all wastewater needs in the study area for the next 20 years, whether or not funding is being sought for every capital improvement. For needs that will be addressed using SRF or SWQIF loan assistance, a cost-effectiveness analysis based on a 20-year planning horizon must be performed and each component to be funded must be part of the 20-year facility that will cost-effectively address water quality and/or public health problems.

It is strongly advised that potential loan applicants submit a draft project plan to their MDEQ project manager for review at least 90 days before the plan is finalized. This will assist staff in identifying various problematic issues and potential obstacles to prioritizing the project when the final plan is submitted.

A complete final project plan will be the basis for project prioritization for SRF and/or SWQIF loan assistance. Two copies of the final project plan must be submitted to the address on the front cover of this guidance by July 1 of any given year for prioritization on a Project Priority List (PPL) for the following fiscal year (October 1 to September 30). Please note that a completed *Project Plan Submittal Form* (Attachment A) must accompany the final project plan submittal. Before beginning a project plan, please read the *Applicant Actions Related to Project Planning* (Attachment B) for guidance on which federal and state agencies to contact during the planning process.

II. Project Background

Your project plan should begin with basic background information. The initial section should be detailed enough to serve as the foundation for assessing needs, evaluating alternatives, and identifying environmental issues.

A. Study Area Characteristics

1. Delineation of the Study Area

A study area serves as the basis for planning the proposed project(s) and should be delineated in a manner that recognizes wastewater problems that can reasonably and logically be addressed in the scope of one or more feasible projects. At a minimum, the study area should cover the geographic area served by any existing wastewater system(s) and include potential treatment sites or facilities outside of the current service area. Even where existing or potential treatment takes place in a municipality or location that is some distance from the wastewater needs studied in the project plan, the capability of this treatment facility to treat existing and proposed future wastewater flows must be examined. The capacity and capability of the wastewater conveyance system to transport existing and proposed future wastewater flows must also be considered.

The map of the study area must identify the following (where applicable):

a. Lakes, rivers, ponds, and wetlands.

b. Existing treatment facilities.

c. Effluent disposal locations.

d. Sludge disposal sites.

e. Existing interceptors, collectors, pumping stations, and force mains.

f. Population distribution (homes and businesses).

g. Parks and recreational areas.

Once the study area is delineated, the area to be served by the proposed project must then be identified, including both the area(s) currently served and new areas expected to be added during the next 20 years. Maps of the study and service areas must be included in the project plan.

2. Land Use in the Study Area

The existing land uses in the study area must be described, including an identification of which areas are residential, commercial, industrial, agricultural, and public. One or more maps from the master plan showing zoning and existing land uses should be included. A discussion of other land use regulations or policies, especially those that address sensitive features

such as wetlands, should also be included. A discussion of the master plan, zoning, and other land use regulations, or policies should be included.

The predicted land use in the study area over the 20-year planning period must also be discussed. Development trends should be addressed, with an emphasis placed on any trends that may be detrimental to the air and water quality, impact agricultural uses, or develop sensitive areas.

3. Surface and Ground Waters

The characteristics and uses of the surface and ground waters should be identified. Points where water is drawn either for public water supply or for agricultural or industrial use must be noted.

B. Economic Characteristics

Present and future economic characteristics must be described, including:

1. The economic structure and major employers.

2. The median annual household income in the study area.

3. The major economic characteristics which might affect population growth (or decline) in the study area, including how these trends are expected to affect needs for wastewater facilities.

C. Existing Facilities

The existing municipal sewage transport/treatment/disposal facilities must be described, including the following items:

1. The method of wastewater treatment and the physical condition of facilities (i.e., years in service of major components and their sizing/efficiency).

2. The method of sludge handling/disposal and the status of the Program for Effective Residuals Management (PERM).

3. The type of collection facilities, including the physical condition of existing collector sewers, interceptors, and pump stations.

4. The location of all treatment plants, sludge management and industrial pretreatment facilities, pumping stations, and collection systems.

5. The design capacity, existing flows, and characteristics of wastes.

6. Septage receiving facilities, septage acceptance capabilities, and septage treatment loadings (if applicable).

7. The location and description of major industrial discharges.

8. The average and peak dry-weather and wet-weather flows received by the treatment and collection facilities.

9. Documentation of infiltration and inflow problems in the collection system.

10. The existence of any combined sewers and their impact on wastewater treatment and collection facilities.

11. The location of all system bypasses, including sanitary sewer overflows (SSO), with their frequency, duration, and cause.

12. The location of all combined sewer overflows (CSO), with their frequency, duration, and cause.

13. An evaluation of pump station capacities.

14. The adequacy of pump stations (e.g., backup power, alarms, controls, wet well/dry well separation) in maintaining sewer system integrity.

15. The existence of any operation or maintenance problems.

D. Need for the Project

The documentation of need should be sufficiently detailed to form the basis for project ranking on the PPL. The need for the proposed project must include a discussion of the following topics:

1. Compliance Status

   a. The status of compliance with the existing point source (i.e., NPDES) or groundwater discharge permit should be described, including a comparison of the existing treatment facility performance to the permit discharge limits.

   b. A copy of the latest discharge permit must be included as an appendix to the project plan.

   c. A completed *Discharge Data Form* (Attachment C) must accompany the final project plan submittal.

2. Orders

   All court orders, federal or state enforcement orders, and administrative consent orders involving the municipality should be described and a copy of each order must be included in an appendix to the project plan.

3. Water Quality Problems

   a. Point and nonpoint sources (NPS) of pollution from on-site systems, storm water runoff, municipalities, industries, and agriculture should be identified. The quality and quantity of these discharges should

be described to evaluate the magnitude of water quality impacts of the separate and/or cumulative discharges. The sources expected to be addressed by the proposed project must be identified.

b. Where the municipality is contemplating some type of action for areas currently without sewers, the project plan must document the nature, number, and location of existing disposal systems that are malfunctioning based on local health department records and/or sanitary surveys. The site characteristics causing the problems with on-site systems (e.g., subsurface geology, high groundwater levels, soil permeability or impermeability) must be documented by soil maps, soil borings, or other records. The system failures and limiting site characteristics must be plotted on a map along with the existing habitation.

c. Even if the municipality is not contemplating some action in areas that do not currently have sewers, septage disposal problems in the study area need to be identified. Factors that can contribute to disposal problems may include an increasing number of on-site systems, the decreasing availability of suitable land for disposal, or the lack of a treatment plant willing to or capable of accepting septage. Treatment plant upgrades to accept and treat septage should be considered where appropriate.

d. Where phosphorus leaching from septic tanks is of concern, this leachate should be evaluated in the context of other nonpoint or point sources of pollution. A well-documented nutrient budget for the surface water in question may be useful in demonstrating the relative significance of phosphorous leachate. The nutrient budget should consider nonpoint pollutant such as run off from fertilized or chemically-treated lawns, the pollutant loadings of tributary streams, and groundwater flow both into and out of lakes. In many cases, it is extremely difficult to document that phosphorus leachate from on-site systems is causing a significant water quality problem.

4. Projected Needs for the Next 20 Years.

a. Residential wastewater needs must be based on 20-year population projections that correlate with those prepared by the state of Michigan or an appropriate regional planning agency. In all cases, 70 gallons per capita per day must be used in computing the per capita residential wastewater flow unless another figure can be justified. Another figure might be calculated by subtracting the estimated infiltration, inflow (I/I), and industrial flows from an average daily base flow derived from reliable water supply records showing residential consumption or wastewater flow records over extended dry periods. This figure is then divided by the existing sewered residential population to obtain the per capita contribution.

b. Industrial, commercial, and institutional flows should be supported by documentation, either in terms of letters of intent or flow records,

particularly where flows from individual water users are a significant contribution to the total wastewater flow. Projection of these flows should be based on realistic economic expectations.

5. Future Environment Without the Proposed Project

This discussion should not only project existing wastewater treatment needs into the future but must also address the interrelationship between potential sewer bans or other limitations on growth compared to future wastewater needs.

E. Population Data

Population data is critical to assessing the need, priority, and sizing of proposed facilities. The data presented in the project plan must include the following items:

1. The existing population in the study area, including any seasonal population attributable to summer or winter resort areas.

2. The current population served by the existing facilities.

3. The current and future population to be served by the proposed project.

4. Population projections for the study area for the next 5, 10, and 20 years.

Please note that the component method of population projection is strongly preferred over direct trend extrapolation (see the Glossary for definitions). Projections used in the project plan should correlate with those prepared by the appropriate regional planning agency or the state of Michigan.

F. Environmental Setting

The environmental setting in the project service area must be discussed, including a brief evaluation of the following items (as applicable):

1. Cultural Resources

Known historical and archaeological sites must be described, based on documentation provided through the National or State Historical Register, the State Historical Preservation Officer (SHPO), local historical societies, and local or regional planning agencies.

2. The Natural Environment

a. Climate

The climate should be discussed only as it relates to the project. For example, precipitation, temperature, and any adverse weather conditions that may affect the project (e.g., depth of frost, prevailing winds as they relate to odors or aerosols, length of growing or irrigating season, length of construction season, snow depth or impact of snow melt on the system).

b. Air Quality

The current and anticipated future air quality in the study area should be discussed, especially as it relates to the project or any growth that may be facilitated by the project.

c. Wetlands

All wetlands in the study area must be identified and described. A map of these wetlands must be included in the project plan.

d. Coastal Zones

All Great Lakes shorelands within the study area must be identified and described.

e. Floodplains

Floodplains within the study area must be identified and described. A Federal Emergency Management Agency (FEMA) floodplain map, with the areas affected by the proposed construction clearly marked, must be included in the project plan.

f. Natural or Wild and Scenic Rivers

All rivers designated for protection within the study area must be identified and described.

g. Major Surface Waters

A map of the major lakes, rivers, streams, and drains in the study area must be included in the project plan.

h. Recreational Facilities

A map showing parks and other outdoor recreational facilities in the area should be included in the project plan. Plans for the expansion of existing sites and new developments must be described.

i. Topography

The topography of the study area delineating drainage basins and their characteristics (e.g., area, slope, elevation) should be noted.

j. Geology

A description of the geological structures or formations that affect the choice of alternatives should be included.

k. Soils

Soil types in the study area and their characteristics that could affect or be affected by the project alternatives (e.g., permeability, erosion potential, compaction) should be identified. Suitability of the soil for septic tank use, effluent treatment/sludge disposal, and road or building construction should also be addressed. Areas where adverse soil or subsoil conditions may be encountered during construction should be identified.

l. Agricultural Resources

All prime or unique farmlands in the study area must be identified and described. A map of these farmlands must be included in the project plan.

m. Fauna and Flora

Fauna and flora characteristic of the study area should be identified. Environmentally-sensitive habitats and any species currently listed as threatened or endangered must be identified. Animals of particular economic or sport value and any special concern species should also be identified.

n. Unique Features

Unique features of the study area, such as aesthetics, which could be affected by the proposed project must be discussed.

III. Analysis of Alternatives

The process of evaluating alternatives must first examine the objectives of the project, any technical constraints, and the discharge permit requirements that must be met. Next, the widest variety of potential alternatives for both the entire system and the various area and/or functional subsystems must be identified. Based on the objectives and requirements to be met, the potential alternatives must then be evaluated and screened. The rationale for rejecting an alternative must be provided in the project plan; in-depth analysis need only be performed for the principal alternatives. This analysis must be based not only on a monetary evaluation of the alternatives but also on implementability, potential environmental impacts, and technical differences between the alternatives.

A. Identification of Potential Alternatives

The following types of alternatives must be evaluated in addition to conventional transportation and treatment technologies or processes.

1. No Action

This alternative is primarily relevant where transportation, treatment, and disposal facilities are in compliance with discharge permits or where no facilities currently exist. In these situations, the environmental benefit of the

proposed action may not be clear while the expense and potential for adverse environmental impacts of the project may far outweigh its potential social benefits.

2. Optimum Performance of Existing Facilities

Investigation may reveal that existing facilities can function more efficiently with operational changes, the addition of new equipment, or the addition and training of operating personnel. This investigation should include not only an evaluation of the performance of existing centralized treatment plants but also an evaluation of existing on-site systems. Whatever the results of the investigation, optimum operation of existing facilities will determine what additions, expansions, or replacements must be made, including improved design and operation of on-site systems.

The investigation of the performance of existing facilities should consider the following items:

a. The optimum performance level possible with the existing process design.

b. The age and reliability of the existing treatment equipment and its remaining useful life.

c. Any additional operating controls and laboratory facilities needed to monitor and improve operations.

d. Process modifications (e.g., conversion of conventional activated sludge to contact stabilization, the addition of mechanical aeration to waste stabilization ponds).

e. The impact on performance of implementing a pretreatment program for industrial dischargers if one does not already exist.

f. The impact on performance of flow reduction programs that may remove or eliminate excess infiltration and inflow.

g. The effectiveness and suitability of the existing on-site disposal systems and possible modifications for improving performance through public education and management.

3. Regional Alternatives

While regional alternatives can provide economies of scale, the complete cost of each alternative and its comparability with other alternatives must be evaluated carefully. For instance, a regional alternative may serve areas with no water pollution problems along with areas that have existing needs, while other alternatives serve only those areas with existing pollution problems (e.g., a regional interceptor extension compared to a treatment plant upgrade in a small town).

For regional alternatives, the capacity and adequacy of the proposed treatment facility must be examined. Where either of these is deficient, the costs of upgrade or expansion to treat the increased flows and the basis for these costs must be added to the analysis. These costs are in addition to the interceptor/pump station costs. Where a new regional treatment facility is to be constructed, the basis for allocating costs back to the participating municipalities and the need to negotiate and execute intermunicipal service agreements must be examined.

In analyzing regional alternatives, alternative interceptor routings must be evaluated, with consideration given not only to cost but also to the magnitude of facilitated growth. The resulting socioeconomic and environmental impacts of the growth resulting from alternative routings must be examined. A critical issue is the basis for population projections in the areas that will be served by regional interceptors, particularly where undeveloped areas will be traversed by these interceptors. It is essential that projections be based on recognized methodologies and that the assumptions on which those projections are based be identified in the project plan. Where the construction of a regional interceptor will facilitate or accelerate development of a currently less developed area, the impacts of this development must be addressed. Also, the population to be ultimately accommodated by the system must be presented in the project plan and must correspond to acceptable assumptions and projection methodologies.

B. Analysis of Principal Alternatives

The evaluation of principal alternatives must consider not only their costs but also compare the potential impacts resulting from each alternative. Careful consideration should be given to the financial impact of the project upon the municipality to ensure that the project is affordable.

Please note that <u>equivalent</u> alternatives must be compared. Each alternative must serve the same immediate customers and provide the same end-of-planning-period capacity. Each alternative must address all of the needs detailed in Section II. D. above. Any deviations from this “apples-to-apples” comparison must be noted.

1. The Monetary Evaluation

The monetary evaluation must include a present worth analysis. This analysis does not identify the source of funds but does compare all costs uniformly for each alternative over the 20-year planning period. The fundamentals of a monetary evaluation are presented in Attachment D.

The following cost factors are associated with the monetary evaluation:

a. Sunk Costs

Sunk costs are any investments or financial commitments made before or during project planning. As sunk costs, they are not to be included in the cost-effectiveness analysis since they have already

been committed regardless of the alternative selected. Sunk costs typically include the cost of existing facilities and associated land, outstanding bond indebtedness, and the cost of preparing the project plan.

b. Present Worth

Present worth is the sum that if invested now at a given interest (discount) rate, would provide exactly the funds required to pay all present and future costs. Total present worth, used to compare alternatives, is the sum of the initial capital cost plus the present worth of operation, maintenance, and replacement (OM&R) costs minus the present worth of the salvage value at the end of the 20-year planning period. Where the components used as the basis for calculating OM&R costs (e.g., the number of operators, energy costs, training needs) differ between alternatives, a breakdown of those differences must be provided.

The discount rate to be used in computing present worth cost is established each year by the U.S. Environmental Protection Agency (EPA); please call 517-373-2161 to learn the appropriate discount rate for your project plan.

c. Salvage Value

The planning period for the monetary evaluation is 20 years. At the end of this period, portions of the proposed structures or equipment may have a salvage value. When computing present worth, the salvage value of structures or equipment is determined by using straight line depreciation. The present worth of the salvage value is then computed using the discount rate. The useful life to be used in the monetary evaluation should fall within the following ranges:

i. Land ─ permanent.

ii. Wastewater conveyance (e.g., collection sewers, force mains, interceptors, tunnels) ─ 50 years.

iii. Wastewater treatment plant or other structures (e.g., basins, buildings, concrete structures, lift stations, outfalls, septic tanks, tile fields) ─ 30 to 50 years.

iv. Process equipment ─ 15 to 20 years.

v. Auxiliary equipment ─ 10 to 15 years.

When the loan applicant assigns a useful life of less than 20 years, the monetary evaluation must show the present worth replacement cost at the end of the useful life, as well as the present worth of the salvage value of the replacement at the end of the 20-year planning period.

d. Escalation

Only energy costs and land value may be escalated in the monetary evaluation. The cost of labor, equipment, and materials is not escalated since it is assumed that any increase will apply equally to all alternatives. Different alternatives, on the other hand, may use different fuel supplies, or one alternative may use land application, and another may not.

The escalation of energy costs is to be based on data periodically published by the EPA or on historical data for the area, if justified. Land prices should be escalated at a uniform rate of three percent per year, except for rights-of-way and easements.

e. Interest During Construction

If interest during construction is significant and may influence the choice of alternatives, it may be included in the monetary evaluation using one of two methods. If expenditures are uniform and the construction period is less than four years, interest is one half of the product of the construction period (in years), the total capital expenditures (in dollars), and the discount rate. Otherwise, interest should be calculated on a yearly basis.

f. Mitigation Costs

The costs of mitigation, whether undertaken by the applicant or another party, must be included in the monetary evaluation. Depending on the short-term or long-term nature of mitigation, appropriate cost factors should be applied to generate a present worth value. Where either impacts or the types of mitigation (such as non-structural measures) are not easily reduced to a monetary basis, they must still be considered in the alternatives analysis along with other non-monetary issues such as implementability.

g. User Costs

Another aspect of the monetary evaluation is the computation of the total cost of the project to users. Total cost in this context includes capital and financing costs, OM&R costs, and other costs (e.g., sunk costs, hook-up/tap-in fees, and front footage assessments). The project plan must show estimated costs (annual, quarterly, or monthly) to residential and industrial users for each alternative. These estimates should identify whether and to what extent new customers over and above the initial service population are being included. This information must be made available to the public as part of the public participation program.

2. Staging Construction

While a 20-year planning period should be used in the monetary evaluation, in some circumstances the project design life may be shorter. When a design life of less than 20 years is proposed, the project must be carefully scrutinized since actual design life may prove to be considerably shorter than estimated and result in the need for more work soon after project completion. Nonetheless, the staging of construction may prove to be cost-effective or the analysis of financial capability and user charges may indicate that staging is preferable. Other conditions that strongly suggest a staging of construction include:

a. Environmental considerations, particularly where rapid growth cannot be accommodated without major adverse socio-economic or environmental consequences.

b. Uncertainties surrounding future population projections and economic conditions.

c. Future treatment requirements that are more stringent than secondary treatment requirements.

d. Existing facilities that are to be used for an interim period and later phased out.

As a guideline, the staging period should be based on the following:

Qf/Qi Ratio[1]	Staging Period
<1.3	20 years
1.3 to 1.8	15 years
> 1.8	10 years

3. Partitioning the Project

Under certain circumstances, a partitioning of the project is allowed. A partitioned project plan may be prepared when construction of a discrete component of the project must occur prior to the completion of the entire project plan in order to remedy a severe public health, water quality, or other environmental problem. The partitioned plan must demonstrate that the project component to be constructed early will: (a) not foreclose any reasonable alternatives for the overall project; (b) not cause significant adverse direct or indirect environmental impacts; and (c) not be highly controversial. While the partitioned project plan will not contain the detail required for the overall project, it must provide conceptual information regarding the potential alternatives (of which the early component is a part) that will ultimately be required to correct all deficiencies. This detail should demonstrate how the early project component will eventually be

[1] Where *Qf* is the flow at the end of the 20-year planning period and *Qi* is the flow at the initiation of plant operation.

integrated into the cost-effective long-term solution. Another planning document will need to be prepared later to address the remaining future work in order to satisfy the requirements of MCL§324.5303.

4. The Environmental Evaluation

The major environmental impacts expected to result from each alternative must be compared in the project plan. Where impacts are similar, the discussion need not be repetitive but should compare such impacts in terms of scope and intensity. Where vastly different types of impacts are expected, as from land application treatment versus regional treatment, the whole range of impacts must be addressed, including any significant environmental benefits precluded by rejection of an alternative. In general the comparison of impacts resulting from each alternative should address each relevant environmental, social, or other factor identified in the project background section. It may be possible to summarize the comparison of impacts in a matrix or other tabular format. However, the complex and major impacts should be fully described to clarify the differences in scope and intensity of impacts expected to result from the various alternatives. Anticipated mitigation requirements and costs must also be included in this discussion.

5. Implementability and Public Participation

Throughout the evaluation of alternatives, the public must be provided with opportunities to comment. With public input, it may become apparent that certain alternatives or sites are not acceptable to the public or to neighboring communities affected by the project. These issues must be resolved in the choice of alternatives.

Some other implementability issues to be resolved and described in the project plan include the financial burden on the applicant municipality, the need for intermunicipal agreements or the formation of an operating authority, the availability or competing uses of the proposed site, and the ability of the municipality to manage the construction and operation, maintenance and repair (OM&R) of the facility.

6. Technical and Other Considerations

a. Infiltration and Inflow (I/I) Removal

Infiltration and inflow represent extraneous flow. If discharged into a treatment works, this flow utilizes capacity in sewer lines and the treatment plant, dilutes the wastewater, requires electrical power for pumping and treatment, and otherwise increases the cost to transport and treat wastewater.

An evaluation of I/I should be completed for each existing collector system in the study area. Both private and public sources of I/I must be included in this evaluation. If it is shown to be more cost-effective to remove this extraneous water than to transport and

treat it, then I/I is considered excessive and must be removed. Generally, infiltration is not considered to be excessive when the total flow rate measured during high groundwater conditions is less than 120 gallons per capita per day. However, if any of the following conditions exist, then an I/I analysis must be performed during project planning:

i. Wastewater flow during conditions of high groundwater is greater than 120 gallons per capita per day;

ii. Wastewater flow during any storm event is greater than 275 gallons per capita per day; or

iii. Storm events cause backup problems, overflows, or poor treatment performance due to hydraulic overloading.

The I/I analysis will consist of an investigation to quantify inflow and infiltration), including a cost-effectiveness analysis to compare the costs of economically removing the I/I in the sewer system (by definition, excessive I/I) to the costs of transporting and treating the I/I (by definition, non-excessive I/I).

In preparing an I/I analysis, the applicant should analyze the treatment plant flow records, compare the sewage flows against water consumption records, conduct flow monitoring at selected manholes or pumping stations, and otherwise conduct a field investigation to determine the quantity, location and source of I/I. The comparison of estimated costs to eliminate portions of the I/I will determine if the I/I is excessive. Where a portion of the I/I is determined to be excessive, the recommended alternative must include a sewer system rehabilitation component to eliminate the excessive I/I, which in most cases will require the completion of a Sewer System Evaluation Survey (SSES).

An SSES starts with the information gathered in the I/I analysis and then identifies the specific sources of extraneous water input, whether a peaking source (such as a cross connection or flooding manhole) or a steady source (such as infiltration into a deteriorated sewer or service lead). Each source, both public and private, is quantified as to the volume of flow it contributes to the system. In all cases, the disconnection of footing drains must be considered during the preparation of the SSES.

Once the sources of extraneous flow are identified, specific costs to remedy these sources will be estimated. Typically, this information is presented in a tabular format showing the flow contributed and the cost for its removal. These costs are then compared to the costs to transport and treat the extraneous water. This comparison will identify those sources which are less costly to remove versus those sources where it is less costly to transport and treat the extraneous water.

It is important to note that the costs to transport and treat the extraneous water must consider all physical improvements to the collection system needed to convey the excess flows to the treatment plant as well as the plant improvements necessary to treat the flows. All of the costs to handle this water (e.g., new sewers; equalization to prevent bypasses; upgrades to pumping stations; increases in the size of components at the treatment plant) must be identified and presented in a cost-per-gallon basis.

Please note that clear water removal projects which are based upon OM&R savings alone are not eligible for funding.

Where neither excessive I/I nor chronic operational problems exist, but a need does exist to replace or rehabilitate sewers for structural reasons, the project plan must document the age and condition of those sewers in order for that work to be eligible for funding. The project plan should incorporate the findings from recent sewer inspections (e.g., televising, physical inspection). Sewer maintenance records should also be consulted to assist in identifying problems.

b. Sludge and Residuals

When facilities that will generate sludge or residuals are being contemplated, the effect of different alternatives on the quantity and quality of sludge and residuals must be considered. Particular attention should be paid to constituents such as heavy metals or Polychlorinated Biphenyl (PCB), which can impact the safety of sludge or residuals handling and disposal. An examination of the effectiveness of a pretreatment program in removing industrial pollutants from the wastewater transportation and treatment system may be required.

Where the quantity or quality of sludge or residuals will be affected by various transportation or treatment alternatives, alternative methods of residuals handling and disposal must be evaluated. Where failing on-site septic systems are to be replaced/upgraded, there must also be an examination of the options available for handling and disposing of pumped septage. Particular attention should be paid to disposal options that productively recycle or utilize sludge and residuals. The status of the facility's PERM must be noted and relevant information included in the project plan. If incineration is being considered, ash handling procedures and air quality impacts must be addressed.

c. Industrial Pretreatment

Pretreatment requirements must be considered, particularly where heavy metals, PCBs, or other hazardous wastewater constituents will affect the choice of alternatives. Attention should be paid to

potential effects on residuals disposal, treatment process upsets, and direct discharge through sanitary or combined sewer overflows.

d. Growth Capacity

The capacity of the proposed facilities to meet wastewater needs during the 20-year planning period must be considered. A balance must be struck between building facilities for the entire planning period and building facilities that will require expansion in less than 20 years. It is also important to address capacity needs in a time frame that will allow for planning, designing, and constructing improvements in advance of exhausting capacity and violating permit limitations.

The project plan must document that sufficient wastewater treatment capacity exists or will exist as part of the project over a 20-year planning period. While the specific details of development cannot be predicted accurately, an attempt should be made to delineate future wastewater service areas and in-fill population growth.

The type and magnitude of anticipated development must be described in order to justify treatment capacity. To substantiate capacity needs, local planning and zoning documents should be cited. Information on the density of expected development (dwelling units per acre and people per household) should also be provided.

e. Areas Currently Without Sewers

The prioritization of SRF projects in areas currently without sewers is dependent upon the documentation of water quality problems coupled with the existing population to be served by the project. The evaluation of alternatives must consider the following issues:

i. Documentation of an existing pollution problem is the most critical issue to address. The disposal of wastewater from the existing population must be demonstrated to cause either a public health problem, contamination of the ground-water, or a violation of the point source discharge require-ments of the federal Clean Water Act.

ii. Where a collector system with centralized treatment is being evaluated, the area must be an "existing community" with substantial habitation in existence at the time the project plan is prepared. As general guidance, this means that the existing population occupies about 2/3rds of the buildable lots along the potential sewer route or contributes about 2/3rds of the design flow to the proposed sewer at the time the project plan is prepared.

iii. Where problems can be demonstrated and development exists at a density of less than three dwelling units per acre, or the soils are otherwise suitable, alternatives other than conventional gravity sewers must be evaluated (e.g., the replacement/upgrading of on-site systems, the installation of mounded drain fields or a cluster system, the use of force mains to convey sewage to a centralized treatment facility). The evaluation of these alternatives must consider not only their costs but also their potential environmental impacts.

iv. Where an interceptor or force main will traverse an undeveloped area, the potential for facilitated development must be considered.

f. Reliability

Each alternative should be evaluated based on reliability ─ its ability to meet and consistently maintain permit limitations throughout the useful life of the project.

g. Alternative Sites and Routings

The evaluation of alternatives must consider a variety of sites and routings, which should be shown on maps and described in terms of comparative physical characteristics (e.g., existing farmland, sensitive environmental features, surrounding land uses). The ownership and availability of the sites must also be described.

h. Combined Sewer Overflows (CSO)

Alternatives addressing CSO must be consistent with effluent limits in the discharge permit and the municipality's approved long-range CSO Plan. Alternatives for sewer separation may be feasible in addition to alternatives for retention and treatment. However, special attention should be paid to the negative impacts of incomplete separation (i.e., some inflow remains in the system) that can subject the system to peak flows that are difficult to accommodate. Additional treatment or equalization capacity and/or facilities to handle separated storm water may be necessitated by these alternatives or by retention alternatives which dewater through the separate sanitary system to a treatment facility. If applicable, these factors must be discussed. A discussion concerning the elimination of CSO outfalls should also be included.

i. Contamination at the Project Site

The cleanup of contamination at a project site must be factored into the assessment of project alternatives, both in the environmental evaluation of the alternatives and, especially, with regard to cost-effectiveness. Typically, four types of contamination may be encountered during project construction: soils contaminated by

petroleum or other chemicals; discarded materials such as chemical drums or insulation; groundwater or surface waters contaminated by chemical leachate or runoff; and materials to be removed or disturbed in the existing facility that contain asbestos, lead, mercury, PCBs, or similar contaminants.

In order to complete the environmental evaluation of alternatives, consideration should be given to following actions:

i. An identification of past activities that might have caused site contamination, such as leaking underground storage tanks along proposed sewer routings.

ii. A visual survey of project sites to identify any abandoned containers and their contents.

Iii. Soil and groundwater sampling of project sites to evaluate potential contamination problems.

iv. An examination of the state's list of contaminated sites, found at http://www.deq.state.mi.us/part201ss.

v. Where the proposed project involves the reconstruction or rehabilitation of existing facilities, a record search or visual survey to ascertain the presence of contaminated building materials in the areas of proposed construction.

The activities necessary for construction to proceed in areas of contamination (i.e., the excavation, testing, removal, handling, transportation, and disposal of contaminated materials) must be identified and factored into the environmental evaluation. The costs associated with these activities must be included, as mitigation costs, in the monetary evaluation of alternatives.

IV. Selected Alternative

The description of the selected alternative must be detailed and comprehensive. Mention should be made of how the proposed project fits into comprehensive plans to address wastewater needs for the next 20 years. A creative use of charts, overlays, perspective drawings, and other graphics can provide descriptive details and inform the citizens who will ultimately be using and paying for a project, which should enhance their quality of life.

A. Description of the Selected Alternative

The description of the selective alternative must include the following items:

1. Relevant Design Parameters

A summary of the basis of design should be presented, including:

a. The major process features.

b. The unit processes and sizes as related to service area needs.

c. A schematic flow diagram of the treatment processes.

d. The design criteria (e.g., detention times, overflow rates, process loadings, initial and design flows).

e. Residuals management (e.g., grit, sludge, ash).

f. Sewer length and sizes.

g. Pump station types and sizes, including provisions for standby power and odor control.

h. The proposed schedule for design and construction.

2. Controlling Factors

The factors that shape the design should be briefly discussed. The intent is to emphasize the logical linkages between the selected alternative and the following controlling factors:

a. Service area population, including any special users (i.e., industrial or commercial customers).

b. Characteristics of influent wastewater and treatment residuals.

c. Discharge permit requirements.

d. Stipulations in court orders, federal or state enforcement orders, or administrative consent orders.

e. Proposed effluent limits.

f. Local health department findings and directives.

g. Mitigation of environmental impacts of the proposed project construction and operation.

h. With regard to collection and transport via sewers or force mains, the factors that dictate the sizing of pipes (e.g., state standards, anticipated service area flows, minimum slopes).

3. Project Maps

Legible maps, with distance scales and other appropriate graphics, must be provided to show the following items:

a. Locations of treatment and disposal facilities for wastewater and residuals. If residuals must be transported, proposed haul routes and schedules (hours and frequency) should be discussed.

b. Routes as well as lengths and sizes of sewers and force mains.

c. Locations and sizes of pump stations.

d. Locations of CSO and storm water control/treatment facilities.

4. Sensitive Features

If environmentally-sensitive features ─ wetlands, floodplains, prime or unique agricultural lands, archaeological sites, or the habitat of a threatened or endangered species ─ may be affected by the project, such features should be clearly shown on a map included in the project plan.

5. Mitigation of Environmental Impacts

Mitigative measures and their associated costs are integral features of any project. This portion of the project plan should briefly note any efforts necessary to mitigate environmental impacts of the proposed construction and operation of the wastewater facilities. Since permits often specify mitigation, it is important to confer with permit officials early in the planning phase to define the preliminary requirements for mitigation.

6. Schedule for Design and Construction

Major project-related activities and scheduled dates need to be listed and briefly explained. A Program Evaluation Review Technique (PERT) chart (critical path analysis) or other standard scheduling technique may be used to illustrate the relationships between major elements of the project. The time required for design, financing, bidding, permit procurement, seasonal restrictions on construction, and the mitigation of environmental impacts of construction and operation should all be identified.

7. Cost Summary

A summary of all costs associated with planning, design, and construction of the selected alternative must be presented.

B. Authority to Implement the Selected Alternative

The legal, financial, and managerial aspects of the applicant's organization need to be briefly discussed in order to document that the applicant has the legal authority, capability, and willingness to plan, finance, build, operate, and maintain the wastewater facilities. Information must be provided to identify the entity that will own, operate, and finance the facilities to be built as part of the proposed project. Where responsibility for implementation rests with more than one municipality, each entity's jurisdiction and responsibility must be delineated. The institutional

arrangements for financing the project, including capital cost contributions from other entities, must be described.

In the case of a project serving more than one municipality, the intermunicipal service agreement will be an indication of the institutional and financial obligations of each participating municipality. The project plan must identify service agreements, either new or modified, that will be needed in order to finance and construct the project. If revisions to existing agreements are needed to implement the project (i.e., reallocating contract capacities or revising formulas by which costs are allocated by quantity, waste strength, or rate of flow), the project plan must also identify the necessary amendments.

In the case of a project involving the disconnection of footing drains in order to remove clear water from sanitary or combined sewer house leads, an ordinance or similar legal instrument will be an indication that the municipality has the legal authority to complete the proposed project. The project plan must identify this legal document.

Where the applicant's authority to finance and construct the proposed project requires contractual arrangements with other local units of government, resolutions must be obtained from all of the participating entities adopting the project plan and agreeing to implement the selected alternative. These resolutions will suffice as an initial demonstration of project implementation capability. However, executed intermunicipal agreements will ultimately be needed to solidify the arrangements, which will finance the project.

Please note that all service agreements and necessary ordinances must be submitted for MDEQ review as part of the user charge system/sewer use ordinance submittal during the SRF/SWQIF loan application process.

C. User Costs

The total estimated project costs should be translated into an estimated total annual, quarterly, or monthly residential user charge over the useful life of the project. It is suggested that user charges be presented in a tabular format to simplify comparisons. The amount of flow generated by the typical residential customer, based on actual metering or water usage, must be presented to allow the public to calculate their actual costs.

The discussion of user costs must identify the number of users or user equivalents (with a definition of what constitutes a user equivalent). The number of users must be related to the total annual debt to be retired so that it is clear how the cost of the project is distributed across the users. Where other sources of capital within the capital improvements budget of the community will be used to defray costs, this should be described to clarify why the user debt component does not correlate with the project cost. The use of hook up fees, special assessments, or other financing tools that will be used to defray the debt must be thoroughly discussed.

Please note that estimated costs must be generated without factoring in new users projected to appear after project completion, even though such users could serve to lower long-term costs. The goal is to present project cost impacts on the current

customers, including a comparison of existing charges to the proposed charges after project completion, so users can view costs from a before and after project perspective.

The project costs and associated user charges must include and differentiate the following items:

1. Capital expenditures (e.g., debt retirement, hook-up/tap-in fees, special assessments).

2. Operation and maintenance.

3. Replacement of service-limited facilities and components.

4. Other costs likely to be incurred by customers.

Recognizing that customers will have varying means to pay one-time hook-up or tap-in fees and recurring user charges, it may be useful to briefly discuss various methods of payment and any financial aid programs that may be available to assist customers.

V. Evaluation of Environmental Impacts

The discussion of the environmental impacts of the selected alternative must provide a comprehensive overview and evaluation of any adverse impacts that may occur because of the proposed project. This evaluation should be more detailed than the comparison of impacts for the various alternatives detailed in Section III.

A. Description of the Impacts

The potential beneficial and detrimental environmental effects of the project should be evaluated in the project plan. The natural environment described in Section I may be affected by implementing the selected alternative. Therefore, the analysis of project impacts should be organized to systematically consider the impacts on the existing environment. A comparison should be made of the situation with and without the proposed project.

The analysis of impacts should be divided into three parts. The first part should consider direct impacts which are related to the construction and operation of the selected alternative. The second part should consider indirect impacts that are project-facilitated. Finally, the cumulative impacts should be described. In all cases, impacts which cannot be avoided must be highlighted. These discussions must identify the nature of the impacts in terms of the following topics:

1. Beneficial and Adverse Impacts

   Both positive and negative impacts resulting from the proposed project should be noted, with special attention paid to cultural or environmentally-sensitive features.

2. Short-Term and Long-Term Impacts

The trade-offs between the short-term use of the environment and the long-term gains to the community (as well as between short-term gain and long-term uses) should be discussed. The possibility that the proposed action may foreclose or narrow future uses of land and water resources should also be addressed.

3. Irreversible or Irretrievable Resources

Any irreversible commitments or use of irretrievable resources should be noted, including an evaluation of the extent to which the proposed project curtails the range for future uses of land and water resources.

B. Analysis of the Impacts

1. Direct Impacts

Direct impacts are the social and environmental impacts that are directly attributable to the construction and operation of the project. Projects such as minor sewer rehabilitation (grouting or slip lining) will normally have minimal impacts on environmental features but will have noise, dust, and traffic disruption impacts. New treatment plants, retention basins, and collector or interceptor sewers normally have greater primary impacts that must be carefully considered, particularly where construction will occur in areas, which have not already been impacted.

Direct impacts can be divided into those attributable to project construction and those attributable to project operation. While construction normally creates short-term impacts that can be mitigated or reversed through adequate restoration, the destruction of structures or sensitive habitats in the course of construction can result in long-term, irreversible impacts.

Project operation can impact the surrounding area as long as the facility is in operation. For clarity and comprehensiveness, operational impacts should be addressed separately from the construction impacts.

The following direct impacts need to be discussed:

a. Impacts upon local air quality. Short-term impacts may include those related to heavy equipment emissions and uncontrolled dust. Long-term impacts may include those related the release of odors, aerosol drift, or ash.

b. Impacts upon archaeological, historical, or cultural resources (e.g., impacts upon historic neighborhoods or buildings, recreational areas, and items deemed to be significant to the municipality). Special attention should be paid to Attachment F, which describes the project contents needed for a State Historic Preservation Office (SHPO) review.

c. Impacts upon the existing or future quality of local groundwater and surface waters. Examples of short-term impacts include those related to construction site runoff and stream sedimentation, dewatering activities, and stream crossings. Examples of long term impacts include those related to facility discharges.

d. Impacts upon sensitive features (e.g., floodplains, wetlands, endangered species, wild and scenic rivers, shorelands, and prime or unique agricultural lands). Encroachment upon any of these features must be addressed and typically will require review by and permits from state or federal agencies (see Attachment B). The disposal of construction spoils should also be addressed.

f. Impacts upon people and the local economy. Examples of short-term impacts include construction noise, traffic reroutings, and those related to the project's close proximity to schools or residential areas. Examples of long-term impacts include the relocation of businesses or residents and employment changes. The location of construction haul routes should also be addressed.

g. Operational impacts (e.g., odors, noise, traffic, and accidents). Accident considerations should include chemical spills, frequency of plant upsets, back-up facilities, and contingency plans.

2. Indirect Impacts

Generally, indirect impacts are those caused by the proposed project but which may be removed in time and/or distance. Indirect impacts are often secondary in nature and caused by residential or commercial development made possible by the project. Examples include, but are not limited to, nonpoint runoff from new development facilitated by the availability of sewers, air and noise pollution caused by facilitated development, the destruction of sensitive features such as wetlands or shorelands, and the conversion of agricultural lands to other uses.

A key point to remember is that interceptors or an expanded treatment facility can cause indirect impacts, not just the construction of new collection sewers.

The discussion of impacts of a secondary nature should not only address how facilitated development is consistent with existing local zoning and land use planning but should also address whether there will be impacts upon neighboring communities as a result of facilitated development.

The following indirect impacts need to be discussed:

a. Changes in the rate, density, or type of residential, commercial, or industrial development, and the associated transportation changes.

b. Changes in land use (i.e., the loss of open space, floodplains, prime agricultural land, or Great Lake shorelands).

c. Changes in air or water quality due to facilitated development.

d. Changes to the natural setting or sensitive features resulting from secondary growth.

e. Impacts on cultural, human, social, and economic resources.

f. Impacts of area aesthetics.

g. Resources consumption over the useful life of the treatment works, especially the generation of solid wastes.

3. Cumulative Impacts

Cumulative impacts are those impacts to the environment that increase in magnitude over time or that result from individually minor but collectively significant actions taking place over time. Cumulative impacts may also take the form of multiple impacts affecting one particular element of the environment. A comprehensive overview of these impacts should be presented, not an analysis of each impact separately. The overview should blend together impacts from actions directly related to the project and/or related impacts with impacts from actions attributable to other agencies or persons. Cumulative impacts should encompass the entire treatment system, other public works projects, and projected community growth. Some examples are:

a. Siltation or other impacts caused by successive discharges to the same watercourse over time.

b. Water quality impacts from direct discharges and nonpoint sources.

c. Indirect impacts from development facilitated by a new interceptor where a new interstate highway or other infrastructure additions will also induce development.

d. The impacts from multiple public works projects occurring in the same vicinity upon business or residential access and traffic patterns. Segments occurring in successive years may also have a cumulative disruptive impact.

e. Fiscal impacts on the municipality and it citizens resulting from multiple public works projects occurring in the same time frame.

VI. Mitigation

The project plan must include both structural and non-structural measures that will be taken to avoid, eliminate, or mitigate adverse impacts on the environment. Structural measures include mitigation related to the specific design and construction of the facility. Non-structural measures include mitigation related to governmental, institutional, or private

plans, policies, or regulations, or related to the phasing of facility construction over the planning period.

A. General

Where adverse impacts cannot be avoided, mitigation must be considered and described in the project plan, whether or not required by a particular permit or agency clearance. The magnitude and potential for environmental impacts, and any "extraordinary measures" necessary to mitigate them, form the basis for the MDEQ to determine whether or not an Environmental Impact Statement will be required.

B. Short-Term Construction-Related Mitigation

Many mitigation techniques used to minimize construction impacts are standard procedures included in construction contracts. Examples are traffic and safety hazard controls, dust control, noise control, standard techniques associated with soil erosion and sedimentation control, and standard practices associated with the restoration of roads, vegetation, and utilities. These types of mitigation must be discussed in the project plan. Siting and routing decisions should consider the relative costs of replacing or restoring the more expensive or valuable existing features such as roads and mature vegetation.

C. Mitigation of Long-Term Impacts

Every effort must be made to avoid potential long-term or irreversible adverse impacts. Alternative routings of collector sewers, interceptors, or outfalls and alternative sites for major facilities that avoid affecting sensitive environmental features must be evaluated and documented in the project plan. Where it is demonstrated that there are no feasible and prudent alternatives that totally avoid impacts, mitigation must be considered to ensure that sensitive features do not suffer permanent or irreversible adverse environmental impacts.

1. General Construction

If construction will occur in or near sensitive features, mitigation measures are usually specified in permits issued under the various acts that protect those features. Typical mitigation-related permit specifications include:

a. Prohibiting the disposal of spoils in wetlands, floodplains, or other sensitive areas.

b. Specifying the use of construction mats or wide-track vehicles in wetlands or limiting construction to dry seasons.

c. Specifying certain construction practices for stream crossings along sewer routes.

Early contact should be made with permitting authorities to determine the existence, extent, and value of the various sensitive features and this information should be incorporated into the project plan. Be aware that

these agencies often cannot provide a clearance on the proposed action without detailed plans or drawings. Because the applicant municipality is ultimately responsible for complying with federal and state environmental laws and regulations, its representatives must be timely in providing sufficient information for agency evaluations.

Even if required permits or clearances do not specify mitigation measures, mitigation must be evaluated if there will be adverse impacts.

2. Siting Decisions

The location of treatment facilities or major appurtenances is generally permanent and irreversible and should avoid damage to sensitive features. When there is absolutely no other feasible alternative, replacement of damaged features (e.g., wetlands) may be an option upon approval by the agency with permitting or review authority over the resource.

3. Operational Impacts

Operational impacts occurring as a result of facility operation include impacts from odors, aerosols, noise, and operational accidents. These potential impacts can generally be mitigated by use of buffer zones and structural or mechanical features of the facility. Potential releases of hazardous chemicals can be addressed in the facility's operation plan. These potential impacts and mitigation methods must be discussed in the project plan. Potential impacts of effluent discharge are typically addressed in discharge permits; however, if the quality or quantity of a discharge will adversely affect the hydrologic regime or vegetation of a wetland or stream, mitigation must be considered.

D. Mitigation of Indirect Impacts

Mitigation of indirect adverse impacts is often best accomplished by utilizing non-structural means (e.g., public policies, phasing the construction of the facility itself). The most effective means of addressing facilitated development and its potentially-adverse impacts is through well-conceived land use and capital improvements planning and equitably-enforced zoning and other ordinances. Municipalities must recognize the impacts of undirected development and must also recognize their duty to protect the health, safety, and welfare of their current and future residents. Municipalities must, therefore, take an active role in directing development to appropriate locations and at appropriate densities through its master planning, zoning, and building permits approval processes.

The impacts of undirected growth include additional traffic, overcrowded schools, overextended police and fire protection, and a heavy financial burden on existing and future residents ─ not only for the cost of new wastewater facilities but also for the cost of other capital improvements. Undirected growth not only affects local residents and their quality of life but can also have serious adverse impacts on the natural environment, historical resources, and sensitive features.

Growth is facilitated by a combination of forces ─ the general economic climate, the perceived desirability of a particular area, and the land available to the market for development. However, the provision of infrastructure in an area frequently facilitates the most growth, especially where publicly-financed infrastructure gives one location a competitive advantage in building costs over other locations in the same market area. The potential for facilitated development must be evaluated in conjunction with other capital improvements and infrastructure projects, particularly where a lack of adequate wastewater facilities currently prevents development.

Where new development is expected to be either facilitated or accommodated by the project, the project plan must show that the negative impacts can be mitigated so as not to be detrimental to the cultural, historical, and natural features of the area. The first step in addressing this issue is demonstrating that the capacity provided by the project corresponds with the current master plan and/or zoning.

1. Master Plan and Zoning

   The master plan and zoning map should recognize and protect the cultural, historical, and natural attributes existing in the study area. Planning and zoning should specifically recognize development pressures on the following items:

   a. Historical features or neighborhoods so that these areas are not directly destroyed by new building or indirectly impacted by other infrastructure.

   b. Prime or unique agricultural land to control direct development of this critical resource and prevent displacement of farmers by increased taxes and other assessments for sewers and road widening made necessary by development.

   c. Wetlands, floodplains, stream banks, shorelands, or other sensitive features to direct growth away from these areas and to prevent deterioration of these areas by dumping, nonpoint source pollution, and other degradation (e.g., destroying vegetation, draining, ditching, utilization of pesticides and herbicides).

2. Ordinances

   Ordinances should be formulated and enforced to control increased storm water and NPS pollution from impervious surfaces, fertilized and chemically treated residential lawns, and disturbed areas where new construction is occurring. Structural solutions (e.g., settling or retention basins, a storm water control network) may be necessary to address the magnitude of storm water, potential flooding, and NPS pollution problems that are created by growth.

   Building codes, performance standards, specific ordinances, or limitations on certain uses should be used to address the increased noise, odors, and air pollution from dust, general combustion sources (open burning, wood stoves) and vehicle emissions caused by increased growth.

3. Staging of Construction

Construction of interceptor sewers, collection sewer extensions, and major treatment facility expansions should be staged when feasible. This method, especially where increases in capacity and extension of the system are dramatic, can assist in limiting the debt retirement burden for existing residents. It can also allow for other capital improvements such as roads to keep pace with the provision of wastewater facilities. The routing and timing of interceptors and sewer extensions can help direct development appropriately and in accordance with the municipality's master plan.

Neither SRF nor SWQIF loan assistance can be provided to a project that will accommodate or facilitate growth in areas that are protected from development under federal or state federal law. Treatment capacity, interceptors, and sewers will not be eligible for funding if they serve or provide capacity to such areas. The project plan must demonstrate that planning, zoning, or other land use controls acknowledge the location and status of protected lands and resources as evidence that these lands and resources will be safeguarded from damage or destruction.

VII. Public Participation

The opportunities for public participation must be documented in the project plan. This participation is generally informal in the early planning phase and more formal during the finalization of plans. In addition to public meetings, other methods of involving the public include newspaper articles, fliers in utility bills, mass mailings to citizens, and the establishment of citizen's groups for input on controversial projects. These additional steps are highly recommended and could prove critical to the public acceptance of your project.

A. Public Meetings on Project Alternatives

Public meetings should be held during project development to discuss the various alternatives being considered. These meetings should be advertised in a newspaper of general circulation in the study area and should be held at times and places conducive to maximizing public input (i.e., generally in the evening and at a central location). While a brief summary of the meetings should be included in the project plan, a record of the proceedings is not required.

Although public meetings on the proposed alternatives are preferred, council meetings held in accordance with all of the above requirements is acceptable. In either case, a demonstration that there were adequate opportunities for public consultation, participation, and input in the decision-making process during alternative selection must be included in the project plan. A list of significant issues raised by the public and any changes to the project resulting from public input should also be discussed.

B. The Formal Public Hearing

The municipality applying for an SRF or SWQIF loan must hold a formal public hearing prior to the adoption and submittal of a final project plan. The date,

place, and time of this hearing must be conducive to maximizing public input. For complex or controversial projects, or projects that will serve more than one municipality, hearings at several locations could be held.

1. Public Hearing Advertisement

   A notice of the public hearing must be advertised at least 30 days prior to the hearing in a newspaper of general circulation in the communities affected by the proposed project. A copy of the advertisement and an affidavit confirming its publication must be included in the final project plan. Instructions on where to find copies of the project plan and how to submit written comments about the project must be included in the advertisement. A model public hearing notice is provided in Attachment E.

2. Public Hearing Transcript

   A verbatim transcript of the public hearing, recorded by a court reporter or transcribed by a stenographer from a recording of the proceedings, must be included in the final project plan. The transcript must also include the comments received and the issues raised by the public during the hearing.

3. Public Hearing Contents

   The following items must be discussed during the public hearing:

   a. A description of the water quality problems to be addressed by the project and the principal alternatives that were considered.

   b. A description of the recommended alternative, including its capital costs and a cost breakdown by project components (e.g., treatment plant, sewer system).

   c. A discussion of project financing and costs to users, including the proposed method of project financing and estimated monthly debt retirement; the proposed annual, quarterly, or monthly charge to the typical residential customer; and any special fees that will be assessed.

   d. A description of the anticipated social and environmental impacts associated with the recommended alternative and the measures that will be taken to mitigate adverse impacts.

4. Comments Received and Answered

   The final project plan must include the following items:

   a. A typed list with the names and addresses of the people who attended the public hearing.

   b. A copy of any written comments that were received during the public comment period for the proposed project.

c. The applicant's responses to the comments received.

d. A description of any changes which were made to the project as a result of the public participation process.

C. Adoption of the Project Plan

The official period for receiving public comments on the proposed project may either end at the close of the formal public hearing or extend for several days after the hearing. After the close of the public comment period, an alternative must be selected for implementation by the municipalities participating in the project. The final project plan submitted by the July 1st deadline must include resolutions from all of the participating local units of government to formally adopt the project plan and implement the selected alternative.

VIII. Glossary

Component Method

This method utilizes vital rates (e.g., birth, death) as well as migration rates (frequently derived from school records), as applied to components of the population, usually age groups, to project population. While complex, it utilizes the elements of population change and thus, presents a more complete and accurate model.

Direct Trend Extrapolation

Either a linear or exponential population projection based on past patterns of population growth, this is the least desirable method of projection as it usually does not adequately consider causes of population growth or decline. It also does not consider either the age structure of the population (and the varied rates of growth or decline related to various age groups) or the forces that may influence rates of migration.

On-Site Systems

On-site septic systems (OSSS) are self-contained systems that provide both treatment and disposal of wastewater on or immediately adjacent to an individual lot (e.g., septic tank/tile field systems).

Prime Agricultural Land

Prime agricultural land is land with the best combination of characteristics capable of economically producing sustained high yields of crops when treated or managed. While based on a variety of site characteristics the key to these lands is "high productivity."

Unique Agricultural Land

Unique agricultural land is land other than prime agricultural land that is used for the production of specific high value food and fiber crops. Examples of such crops are blueberries, cranberries, apples, cherries, mint, and tree nuts.

Attachments

A. Clean Water Revolving Funds SRF/SWQIF Project Plan Submittal Form
B. Applicant Actions Related to Project Planning
C. Discharge Data Form
D. Fundamentals of the Monetary Evaluation
E. Notice of Project Plan Public Hearing (Model)
F. Information Needed for a State Historic Preservation Office Project Review
G. National Natural Landmarks in Michigan
H. Regional Planning Agency Addresses
I. Tribal Historic Preservation Officers

ATTACHMENT A

Clean Water Revolving Funds
SRF/SWQIF Project Plan Submittal Form

Michigan Department of Environmental Quality
Jennifer M. Granholm, Governor
Steven E. Chester, Director

http://www.michigan.gov/deq

Clean Water Revolving Funds
SRF/SWQIF Project Plan Submittal Form

<table>
<tr><td>Name of the Project</td><td colspan="2">Applicant's Federal Employer Identification Number (EIN)</td></tr>
<tr><td rowspan="2">Legal Name of Applicant (The legal name of the applicant may be different than the name of the project. For example, a county may be the applicant for bonding purposes, while the project may be named for the particular village or township it serves.)</td><td colspan="2" rowspan="2">Areas Served by this Project
Counties _____
Congressional Districts _____
State Senate Districts _____
State House Districts _____</td></tr>
<tr><td>Address of Applicant (Street, PO Box, City, State & Zip)</td></tr>
<tr><td colspan="3">Brief Description of the SRF Project</td></tr>
<tr><td>Estimated Total Cost of the SRF Project</td><td colspan="2">SRF Construction Start Target Date</td></tr>
<tr><td colspan="3">Brief Description of the SWQIF Project</td></tr>
<tr><td>Estimated Total Cost of the SWQIF Project</td><td colspan="2">SWQIF Construction Start Target Date</td></tr>
<tr><td colspan="3">Name and Title of Applicant's Authorized Representative</td></tr>
<tr><td rowspan="2">Address of Authorized Representative (if different from above)</td><td>Telephone</td><td>FAX</td></tr>
<tr><td colspan="2">E-Mail Address</td></tr>
<tr><td colspan="2">Signature of Authorized Representative</td><td>Date</td></tr>
<tr><td colspan="3">Joint Resolution(s) of Project Plan Adoption/Authorized Representative Designation attached check here ☐</td></tr>
</table>

A final project plan, prepared and adopted in accordance with the Department's *Clean Water Revolving Funds (SRF and SWQIF) Project Plan Preparation Guidance*, must be submitted by July 1st in order for a proposed project to be considered for placement on a Project Priority List for the next fiscal year. Please send your final project plan with this form to:

REVOLVING LOAN AND OPERATOR CERTIFICATION SECTION
ENVIRONMENTAL SCIENCE AND SERVICES DIVISION
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
PO BOX 30457
LANSING MI 48909-7957

A RESOLUTION ADOPTING A FINAL PROJECT PLAN FOR WASTEWATER SYSTEM IMPROVEMENTS AND DESIGNATING AN AUTHORIZED PROJECT REPRESENTATIVE

WHEREAS, the _____ *(legal name of applicant)* recognizes the need to make improvements to its existing wastewater treatment and collection system; and

WHEREAS, the _____ *(legal name of applicant)* authorized _____ *(name of consulting engineering firm)* to prepare a Project Plan, which recommends the construction of _____

_____

_____; and

WHEREAS, said Project Plan was presented at a Public Hearing held on _____ and all public comments have been considered and addressed;

NOW THEREFORE BE IT RESOLVED, that the _____ *(legal name of applicant)* formally adopts said Project Plan and agrees to implement the selected alternative (Alternative No. _____).

BE IT FURTHER RESOLVED, that the _____ *(title of the designee's position)*, a position currently held by _____ *(name of the designee)*, is designated as the authorized representative for all activities associated with the project referenced above, including the submittal of said Project Plan as the first step in applying to the State of Michigan for a revolving fund loan to assist in the implementation of the selected alternative.

Yeas:

Nays:

Abstain:

Absent:

I certify that the above Resolution was adopted by _____ *(the governing body of the applicant)* on _____.

BY: _____

Name and Title *(please print or type)*

_____

Signature Date

ATTACHMENT B

Applicant Actions Related to Project Planning

Applicant Actions Related to Revolving Funds (SRF/SWQIF/DWRF) Project Planning

In all cases where contact letters are specified below, the applicant must provide (at a minimum) the following information in its contact letters:

1. A detailed map showing the area(s) affected by the proposed construction.

2. The location of each construction site using the Congressional Land Survey System Township, Range, and Section.

3. A description of the proposed construction that contains sufficient detail to allow the reviewing agency to adequately assess possible impacts of the proposed action.

4. A reasonable date when comments should be returned to the applicant.

All correspondence related to agency contacts (i.e., the initial and any subsequent contact letters as well as all agency responses) must be included in the final project plan.

Please note there are four agencies that must be contacted in every case: the State Historic Preservation Office (see Item 2), the Tribal Historic Preservation Officers (see Item 3), the MDNR Wildlife Division (see Item 10), and MDEQ Compliance Assistance for Land and Water Management Division issues (see Item 15). The U.S. Fish & Wildlife Service (see Item 10) has initiated a new streamlined review process whereby their written concurrence may not be required for some projects.

Surveys may be required to better define historical-archaeological resources, biological resources, and wetlands. Please note that if any surveys are required, we cannot issue an environmental assessment until the surveys are completed.

1. Air Quality

The **Clean Air Act** (42 U.S.C. §7616) requires an analysis of whether air pollutant emissions will result from the construction or operation of a federally-assisted project.

Applicant Action

The applicant must analyze whether direct or indirect air pollutant emissions will result from the construction or operation of the proposed project. If pollutant emissions can result from the proposed project, the applicant must analyze the impacts of those emissions, including impacts that could result from population growth facilitated by the project. A description of the project-related direct and indirect emissions, along with an analysis of their impacts, must be included in the final project plan.

2. Archeological and Historic Resources

In order to comply with the **Archeological and Historic Preservation Act of 1974** (16 U.S.C. §469 through §469c-1), the State Historic Preservation Office (SHPO) must be notified during the planning of a federally-assisted project so that a determination can be made of whether the proposed project could cause irreparable loss or destruction of significant scientific, prehistorical, historical, or archeological data in the vicinity of the project.

The **National Historic Preservation Act**, as amended (16 U.S.C. §470, et seq.) mandates the protection of historic sites, buildings, structures, districts, and objects of national, state, regional, or local significance listed in the National Register of Historic Places and requires that the effect of a federally-assisted project upon properties included in or eligible for inclusion in the National Register must be taken into account during project planning.

Applicant Action

During project planning, the applicant must request comments on the proposed project from the SHPO. To prepare this request, the applicant needs to follow SHPO's memorandum "Information Needed for a Project Review" (Attachment F in the SRF/SWQIF Guidance and Attachment E in the DWRF Guidance). Of key importance, "streetscape" photographs or a VHS videotape showing the areas affected by the project need to be provided at this time.

The applicant may be required by the SHPO to conduct a survey to ascertain the existence of scientific, prehistorical, historical, or archeological data in the vicinity of the proposed project.

If the SHPO determines that significant scientific, prehistorical, historic, or archeological data will be destroyed by the proposed project, the applicant must either undertake a plan to recover and preserve the data as part of the project or alter the project in order to avoid the destruction.

If the SHPO determines that the proposed project could adversely affect a property that is included in or eligible for inclusion in the National Register of Historic Places, the applicant must either select an alternative project site or integrate into the project design the mitigative measures that have been recommended by the SHPO.

3. Tribal Historic Preservation Officers (THPO)

Tribal Historic Preservation Officers are one of the mandatory consulting parties under Section 106 of the National Historic Preservation Act. While the SHPO may have information concerning religious or culturally significant tribal lands which is made known during their reviews, it is recognized that their database is not comprehensive.

Applicant Action

In all cases during project planning, whether the project occurs on tribal lands or not, applicants are required to make a reasonable good faith effort to identify any Indian tribes or Native Hawaiian organizations that might attach religious and cultural significance to historic properties in the area of potential effects and invite them to be consulting parties. The list of THPOs is arranged by County and can be accessed at http://www.deq.state.mi.us/documents/deq-ess-mfs-dwww-THPOguidance.pdf. This list is also included as Attachment H in the DWRF Guidance and Attachment I in the SRF/SWQIF Guidance. Because of the movement of tribes and the potential for multiple tribes to use the same territory, there will be more than one contact per county. For example, projects in Lapeer County would require that 14 different THPOs be contacted.

If the THPO determines that historic properties with religious and/or cultural significance will be impacted by the proposed project, the applicant must either select an alternative project site or integrate into the project design the mitigative measures that have been recommended by the THPO.

4. Facility Discharge Permits

The **Federal Water Pollution Control Act Amendments of 1972** (P.L. 92-500) require permits for discharges into the waters of the United States. The Michigan Department of Environmental Quality (MDEQ) regulates discharges to both surface waters and groundwater under Michigan's **Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA)**.

Applicant Action

In order to modify or apply for a discharge permit, the applicant should contact the appropriate MDEQ Water Bureau District Office responsible for the geographic area of the proposed project. District office addresses can be found at http://www.michigan.gov/deq/0,1607,7-135-3306_3329-12306--,00.html. The need for a new or modified discharge permit should be noted in the project plan, along with an estimated date for its issuance. The new or modified permit must be issued prior to our publication of the environmental assessment for the project.

5. Farmland and Open Space Preservation

In order to comply with the **Farmland Protection Policy Act** (7 U.S.C. §4201, et seq.), alternative actions that could lessen adverse effects must be considered if a federally-assisted project may result in the conversion of significant farmland to nonagricultural uses. Significant farmland under this Act is defined as prime, unique, statewide or local important farmland.

Applicant Action

The applicant must provide a map in the final project plan showing the location of significant agricultural lands in the vicinity of the proposed project. The project plan must also include information on the impacts of project construction or operation upon agricultural lands. Examples of impacts include the acquisition of farmland as the site for a new wastewater treatment plant or pumping station, the use of agricultural lands for the treatment or disposal of effluent or sludge, and the conversion of farmland into nonagricultural uses due to growth fostered by the expansion of a wastewater collection and treatment system.

If significant farmlands may be converted to nonagricultural uses as a result of the proposed project, the applicant may be required to select an alternative project site. If your project may convert farmland either directly or indirectly, contact the USDA Natural Resources Conservation Service (NRCS) below. The State Conservationist performs a review under the National Environmental Policy Act (NEPA). If there may be a negative impact on prime and unique farmland, the USDA-NRCS will provide Form AD-1006 for completion in accordance with the Farmland Protection Policy Act (FPPA).

John A. Bricker, State Conservationist
Farmland Preservation Program
USDA Natural Resources Conservation Service
3001 Coolidge Road, Suite 250
East Lansing, Mi 48823

The Farmland and Open Space Preservation Act (Part 361 of the **NREPA**), more commonly known as PA 116, enables a farm owner to maintain land in an agricultural use and insures the land is not developed in a non-agricultural use. If your project may affect farmland protected via this state-level program, contact the Michigan Department of Agriculture below.

Michigan Department of Agriculture
Farmland & Open Space Preservation Program
Farmland Preservation Office
Environmental Stewardship Division
P.O. Box 30499
Lansing, MI 48909

6. Health Department Permits

Local health departments have primary regulatory authority over on-site septic systems under Sections 2433, 2435, and 2441 of the **Michigan Public Health Code** (1978 PA 368).

Applicant Action

If the proposed project involves the construction, alteration, extension, or replacement of on-site septic systems, the applicant should contact the local health department during project planning to seek input regarding the acceptability of the proposed action. Local health department addresses can be found at http://michiganstartpages.com/michigan/health/healthdept2.htm. The applicant must then provide a copy of the draft project plan to the local health department for its review and concurrence.

7. Lagoon Berm Permits

Under Michigan's **NREPA**, a dam safety permit may be needed for a lagoon where the berm encloses more than five acres.

Applicant Action

If the proposed project impacts a lagoon where the berm encloses more than five acres, the applicant should contact the MDEQ Land and Water Management Division staff responsible for the geographic area of the proposed project. Dam safety contacts can be found at http://www.michigan.gov/documents/deq/lwm-dams-staffmap_202689_7.pdf. The need for a new or modified dam safety permit should be noted in the project plan, along with an estimated date for its issuance.

8. National Natural Landmarks

The **Historic Sites Act** (16 U.S.C. §461, et seq.) mandates the protection of national natural landmarks.

Applicant Action

The applicant should review the list of national natural landmarks (Attachment G in the SRF/SWQIF Guidance and Attachment F in the DWRF Guidance) and note in the final project plan whether or not there is any listed landmark that could be impacted by project construction or operation. If the proposed project could adversely affect a national natural landmark, the applicant must either select an alternative project site or integrate into the project design the mitigative measures that have been recommended by your MDEQ project manager.

9. Project Site Contamination

Several MDEQ divisions oversee activities related to project site contamination and cleanup. The Air Quality Division (AQD) regulates activities related to the removal of building materials containing asbestos under the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations (40 CFR Part 61, Subpart M). The Remediation and Redevelopment Division (RRD) regulates contaminated sites under Part 201 (Environmental Remediation) and Part 213 (Leaking Underground Storage Tanks) of Michigan's **NREPA**. The Waste and Hazardous Materials Division (WHMD) regulates the disposal of a variety of waste materials under Part 111 (Hazardous Waste Management) and Part 115 (Solid Waste Management) of Michigan's **NREPA**.

Applicant Action

The applicant must indicate in the project plan whether construction of the proposed project will involve any site contamination or cleanup issues. Existing or proposed work plans and practices that will be followed in the excavation, testing, removal, handling, transportation, and disposal of contaminated materials need to be identified. Specific work practices that will be followed to minimize the release of asbestos fibers during construction and ensure the proper disposal of removed materials containing asbestos must also be detailed.

If the proposed project involves the renovation or demolition of structures containing asbestos, the applicant may wish to contact the AQD's NESHAP Asbestos Coordinator at (517)-373-7064 to learn about the work practices associated with safe asbestos removal and disposal. More information about asbestos NESHAP regulations and notification requirements can be found at http://www.michigan.gov/deq/0,1607,7-135-3310_4106-11856--,00.html.

If the proposed project involves construction activities in areas of known soil or groundwater contamination, the applicant may wish to contact the appropriate RRD District Office to learn about the standards that govern the removal and disposal of contaminated soils or groundwater. District office addresses can be found at http://www.michigan.gov/deq/0,1607,7-135-3306_3329-12306--,00.html.

If the proposed project involves the removal and disposal of building materials which contain lead, mercury, PCBs, or similar contaminants, the applicant may wish to contact the appropriate WHMD District Office to learn about proper waste disposal practices. District office addresses can be found at http://www.michigan.gov/deq/0,1607,7-135-3306_3329-12306--,00.html.

10. Protected Plants and Animals

The **Endangered Species Act of 1973**, as amended (16 U.S.C. §1531, et seq.) prohibits federal assistance to a project which is likely to jeopardize (1) any species of fauna or flora listed or proposed to be listed as endangered or threatened by the U.S. Fish & Wildlife Service (USFWS) or (2) the critical habitat on which such species depend.

Michigan's endangered and threatened species are protected under Part 365 of the **NREPA**. The Michigan Department of Natural Resources (MDNR) is the state agency responsible for protecting state listed endangered species in Michigan.

Applicant Action

During project planning, the applicant must contact the MDNR, Wildlife Division, to ascertain whether any species of fauna or flora listed or proposed to be listed in the Michigan Natural Features Inventory as endangered or threatened or special concern, or the critical habitat of such species, is found in the vicinity of the proposed project (see the address below).

The USFWS ensures that federally funded projects do not jeopardize any federally listed species through the implementation of Section 7 of the federal Endangered Species Act. The USFWS has initiated a new streamlined review process whereby their written concurrence may not be required for some SRF/DWRF projects. The USFWS does not need to be consulted if your project is in an urban area where no suitable wildlife habitat is present, or if construction work is limited to existing structures, or if the loan applicant consults with a qualified biologist who can document that no such habitat exists and there is no potential for endangered or threatened species to be present, or that there would be no effect on any listed species.

However, you must contact the USFWS at the address below if there is uncertainty regarding the possible presence of, or effects on, listed species or their habitat. In these cases, the USFWS must provide a list of species in the project area, and, depending on potential effects of the project as determined by the action agency or consultant, may also provide written concurrence as per the previous standard practice for SRF/SWQIF/DWRF projects.

More information is on the Section 7 Consultation webpage at www.fws.gov/midwest/endangered/section7/index.html. Step-by-step instructions are available through the Technical Assistance link on this page. The USFWS requests action agencies and representatives to conclude consultation without USFWS concurrence when a "no effect" determination is appropriate as described in Step 2.

If the USFWS or the MDNR determines that the proposed project is likely to jeopardize an endangered or threatened or special concern species or its critical habitat, the applicant must select an alternative project site.

Addresses:

U.S. Fish and Wildlife Service
East Lansing Field Office
2651 Coolidge Road
East Lansing, MI 48823

Endangered Species Specialist
MDNR Wildlife Division
Natural Heritage Program
P.O. Box 30180
Lansing, Mi 48909

11. Regional Planning

Fourteen regional planning agencies in Michigan play a part in local environmental planning initiatives to support orderly development, efficient use of public resources, and compliance with environmental protection standards within their region.

Applicant Action

The applicant should contact the appropriate regional planning agency during project planning to seek input regarding the impacts of the proposed project upon local development plans, areawide waste treatment management plans, and/or regional water quality management plans. A request for confirmation of the population figures and projections to be used in the project plan should also be made. Planning agency addresses are listed in Attachment H of the SRF/SWQIF Guidance and Attachment G in the DWRF Guidance. If the applicant municipality is in Livingston, Macomb,

Monroe, Oakland, St. Clair, Washtenaw, or Wayne County, the applicant must send a copy of the entire project plan to SEMCOG for review and approval.

12. Storm Water Discharge Permits

The **Water Quality Act of 1987** (P.L. 100-4) requires permits for discharges from municipal separate storm water systems. The MDEQ regulates municipal storm water discharges under Michigan's **NREPA** and Michigan Executive Orders 1991-31, 1995-4, and 1995-18.

Applicant Action

The applicant must contact the appropriate MDEQ Water Bureau staff in the following situations to determine if the proposed project will require permits for storm water discharges:

(1) If the municipality in which the project is located operates a separate municipal storm sewer system and the proposed project involves additional storm water discharges;

(2) If the municipality in which the project is located operates a combined sewer system that, as a result of the proposed project, will become a separated system; or

(3) If the construction activity resulting from the proposed project will disturb one acre or greater (or less than one acre if the construction activity is part of a larger common plan of development).

More information on who to contact can be found at http://www.michigan.gov/deq/0,1607,7-135-3313_3682_3716-24454--,00.html.

In all cases, the final project plan must identify all storm water discharges that will result from the construction or operation of the proposed project, along with an analysis of their impacts. Elements of existing or proposed storm water management plans and specific storm water controls for construction activities also need to be identified.

13. Wild and Scenic Rivers

The **Wild and Scenic Rivers Act** as amended by the **Michigan Scenic Rivers Act of 1991** (16 U.S.C. §1271, et seq.) prohibits federal assistance to a project which will have a direct and adverse effect on the values for which a river segment listed in the National Wild and Scenic Rivers System or designated for study on the National Rivers Inventory was established.

Applicant Action

If a designated wild, scenic, or natural river or tributary may be impacted by the proposed project, the applicant should contact the Natural Rivers Program of the MDNR Fisheries Division during project planning. More information on river segments designated for protection can be found as follows:

Michigan river miles designated as part of the National Wild and Scenic Rivers System, administered by the National Park Service, are listed at: www.rivers.gov/wildriverslist.html#mi

Michigan rivers federally designated for Congressional study are listed at:
www.rivers.gov/study.html

Michigan river segments in the Nationwide Rivers Inventory are listed at
http://www.nps.gov/ncrc/programs/rtca/nri/states/mi.html.

Michigan Natural Rivers and their tributaries can be found on the MDNR website at
http://www.michigandnr.com/PUBLICATIONS/PDFS/fishing/NaturalRivers/DesignatedRivers.pdf.

If the proposed project could adversely impact a designated river segment, the applicant must either select an alternative project site or integrate into the project design the mitigative measures that have been recommended by the MDNR Fisheries Division. If your project may affect a federal or state designated river shown on these maps or listed on the websites, you will need to contact the MDNR Natural River Administrator below. While the River Administrator only has authority over the state-designated rivers, the office can assist in answering questions about federally-designated rivers or will refer/redirect to the appropriate federal office for further review.

Address: Natural River Administrator
MDNR Fisheries Division
PO Box 30446
Lansing, MI 48909-7946

14. Airspace and Airports

Federal Aviation Administration (FAA) regulations (14 CFR 77.13) and the Michigan Tall Structure Act (1959 PA 259) have notification and permitting requirements for any construction that may obstruct the use of airspace by aircraft. Tall structures that exceed specific height and runway proximity criteria will require a permit prior to construction.

FAA Advisory Circular 150/5200-33, the federal inter-agency agreement on aircraft/wildlife strikes and the Michigan Aeronautics Code (1945 PA 327), require that new or expanded potential wildlife attractants must be approved prior to construction. Examples of potential wildlife attractants include wastewater treatment facilities utilizing lagoons for treatment and effluent discharge outfalls.

Applicant Action

If the proposed project involves the construction of an elevated storage tank or a new or expanded wildlife attractant in the vicinity of an airport ('vicinity' defined as within 5 miles of any licensed airport) and/or inside the boundaries of an airport, the applicant must contact the Michigan Department of Transportation (MDOT), Bureau of Aeronautics at Lansing's Capital City Airport. To find out whether a project falls within 5 miles of a licensed airport, a directory of licensed airports, grouped by city, is located at http://www.michigan.gov/aero/0,1607,7-145-6777_7036---,00.html. If a project falls within the 5 mile radius, the applicant should forward the facility name, location (including map), and a project description to:

Molly Lamrouex
Aeronautics Environmental Specialist, MDOT
2700 E. Airport Service Drive
Lansing, MI 48906
lamrouexm@michigan.gov
517-335-9866

15. Land-Water Interfaces

The remaining environmental review actions relate to those activities that are regulated by the MDEQ Land and Water Management Division (LWMD) or the Army Corps of Engineers (ACoE). We have provided a LWMD review coordinator housed in the Environmental Science and Services Division who will screen all projects for potential impacts to land-water interfaces. This screening will also include the need for the ACoE review for approval of projects involving waters under federal jurisdiction. A single inquiry containing the minimum information (along with the specific information identified for floodplains) can be sent to:

John Skubinna
MDEQ – ESSD
Pollution Prevention Section
Compliance Assistance Unit
P.O. Box 30457
Lansing, Mi 48909-7957

A. Inland Lakes and Streams

The **Fish and Wildlife Coordination Act** (16 U.S.C. §661, et seq.) requires that fish and wildlife resources be protected whenever a federally-assisted project will result in the control or structural modification of any natural stream or other body of water.

Part 301 of Michigan's **NREPA** requires the evaluation and mitigation of any adverse construction impacts upon inland lakes and streams (e.g., bridge and culvert work, dredging, filling, open cuts and stream re-routings).

Applicant Action

The applicant must indicate in the project plan whether the construction of the proposed project will result in the control or structural modification of any natural stream or other body of water. If the proposed project will have such an impact on a water body, the applicant must note this fact in the contact letter that must be sent to the USFWS (see Item 10).

If the proposed project will result in the modification of a stream or other water body that could adversely affect fish and wildlife resources, the applicant must integrate into the project design the mitigative measures that have been recommended by the USFWS.

The applicant must also indicate in the project plan whether any project construction will occur in the land area of an inland lake or stream that lies below the ordinary high-water mark or on Great Lakes bottom lands. If so, the applicant will need to apply for a permit from the MDEQ LWMD. More information about this permit about can be found at http://www.michigan.gov/deq/0,1607,7-135-3313_24403---,00.html.

If the project may adversely impact an inland lake or stream, the applicant must either select an alternative project site or integrate into the project design the mitigative measures that have been recommended by the MDEQ Land and Water Management Division.

B. Floodplains

Federal **Executive Order 11988**, "Floodplain Management" (42 FR 26951) mandates the evaluation of the potential effects of a federally-assisted project upon floodplains in order to avoid adverse effects associated with direct and indirect development of the floodplains. The executive order further forbids federally-assisted project construction in a 100-year floodplain unless no practicable alternative exists.

Part 31 of Michigan's **NREPA** requires the evaluation and mitigation of any alteration or occupation of the 100-year floodplain of a river, stream, or drain (e.g., constructing buildings, filling, grading).

Applicant Action

The applicant must indicate in the project plan whether any project construction will occur within the 100-year floodplain. The initial contact letter should include a Federal Emergency Management Agency (FEMA) floodplain map, obtained from the local community, with the areas affected by the proposed construction clearly marked. If a floodplain map is not available, the description of the proposed construction must include the elevation of the ground surface at the construction site and its distance from the water course.

If floodplains may be impacted by the proposed project, the final project plan must include all of the following:

(1) A map showing the 100-year floodplains in the vicinity of the proposed project.

(2) A discussion of the direct and indirect effects of the proposed project upon the floodplains.

(3) A description of the alternative sites or actions that were considered to avoid those effects.

(4) The reasons why the project must be located in or affect the floodplains.

(5) A description of the mitigative measures that will be used to minimize adverse impacts.

(6) A statement of whether or not the project conforms to applicable state or local floodplain protection standards.

All of these items must be discussed at the formal public hearing held prior to the adoption of the final project plan and public notices of scheduled meetings and hearings must mention that floodplains will be affected by the proposed project.

If floodplains will be adversely impacted by the proposed project, the applicant must either select an alternative project site or integrate into the project design the mitigative measures that have been recommended by the MDEQ Land and Water Management Division.

C. Wetlands

Federal **Executive Order 11990**, "Protection of Wetlands" (42 FR 26961) mandates the evaluation of the potential effects of a federally-assisted project upon wetlands in order to avoid adverse effects associated with the destruction or loss of wetlands and to avoid new construction in wetlands if a practicable alternative exists.

Part 303 of Michigan's **NREPA** requires the evaluation and mitigation of any adverse construction impacts to regulated wetlands (e.g., depositing fill material, dredging soil, draining water).

Applicant Action

If wetlands may be impacted by the proposed project, the final project plan must include all of the following:

(1) A map showing all wetlands in the vicinity of the proposed project.

(2) A discussion of the direct and indirect effects of the proposed project upon wetlands.

(3) A description of the alternative sites or actions that were considered to avoid those effects.

(4) The reasons why the project must be located in or affect the wetlands.

(5) A description of the mitigative measures that will be used to minimize adverse impacts.

(6) A statement of whether or not the project conforms to applicable state or local wetlands protection standards.

All of these items must be discussed at the formal public hearing held prior to the adoption of the final project plan and public notices of scheduled meetings and hearings must mention that wetlands will be affected by the proposed project.

If wetlands will be adversely impacted by the proposed project, the applicant must either select an alternative project site or integrate into the project design the mitigative measures that have been recommended by the MDEQ LWMD.

If a wetland survey is required, we encourage applicants to engage a private wetlands consultant, as it does expedite both our state environmental review for environmental assessment publication as well as the permit review process. Alternately, applicants may choose to utilize the Wetland Identification Program administered by the LWMD (formerly called the Wetland Assessment Program). The program information can be accessed at http://www.michigan.gov/deq/0,1607,7-135-3313_3687-10193--,00.html.

D. Great Lakes Shorelands Protection

The **Coastal Barrier Resources Act** as amended by the **Great Lakes Coastal Barrier Act of 1988** (16 U.S.C. §3501 et seq.) prohibits federal assistance to a project which will impact undeveloped coastal barrier areas along the shores of the Great Lakes that have been included in the U.S. Department of the Interior's Coastal Barrier Resources System. The **Coastal Zone Management Act of 1972**, as amended (16 U.S.C. §1451, et seq.) requires that a federally-assisted project be consistent with the approved state coastal zone management program.

The coastal zone management program is administered through several coastal related sections of **NREPA** including Part 323 (Shorelands Protection and Management), Part 325 (Great Lakes Submerged Lands), and Part 353 (Sand Dunes Management).

Applicant Action

If the proposed project will be located near one of the Great Lakes, the applicant must provide a map in the final project plan showing the proximity of the proposed construction to the lakeshore. If the project will affect shoreland that is included in the Coastal Barrier Resources System or if the project is determined not to be consistent with the approved coastal zone management plan, the applicant must either select an alternative project site or integrate into the project design the mitigative measures that have been recommended by the MDEQ LWMD.

E. Army Corps of Engineers (ACoE) Regulated Activities

The ACoE regulates land/water interface activities under the following federal laws:

Section 10 of the **Rivers and Harbors Act of 1899**
Section 404 of the **Clean Water Act of 1977**

These laws require ACoE permits authorizing activities in or affecting navigable waters of the United States, including the discharge of dredged or fill materials into waterways and adjacent wetlands.

Applicant Action

The applicant must contact the appropriate ACoE office to determine if the proposed project will impact a water under federal jurisdiction.

F. Joint Permit Applications

A joint permit application (JPA), which the MDEQ and the ACoE share, is available to ensure efficient permit processing in areas where both agencies have jurisdiction. If a project requires permits/reviews for any of the following activities, only one application is required to meet state and federal requirements:

(1) Wetlands

(2) Inland Lakes and Streams

(3) Floodplains

(4) Great Lakes Bottom Lands

(5) Marinas

(6) Critical Dunes

(7) Dams

(8) High Risk Erosion Areas

This application is available at http://www.Michigan.gov/jointpermit. The site also provides the tools needed to prepare the application, fee schedule, rules pertaining to the project, an application instruction manual, staff contacts, resource location maps (including floodplain and wetlands mapping), and resource protection documents. There are also links to guidance information about each of the specific regulatory areas.

ATTACHMENT C

Discharge Data Form

Discharge Data Form

Please complete the information requested below and indicate the page numbers or appendices in the project plan, which verify the information provided. Enter "N/A" if information is not pertinent.

PROJECT APPLICANT: _____

PROJECT LOCATION: _____

SRF/SWQIF PROJECT NUMBER: _____ RLOCS PROJECT MANAGER: _____

A. Water Quality Severity Data

page _____ **1. Pre-project conditions, including wastewater collection/treatment deficiencies and water quality problems currently occurring.**

page _____ **2. Post-project conditions, including proposed facilities and water quality improvements.**

Does the existing facility (or facilities) being upgraded, expanded, or replaced by this project file either surface water or groundwater discharge monitoring reports?

☐ **YES, Proceed to Section D or** ☐ **NO, Proceed to Section B or C**

Note: If a project with either a surface water or groundwater discharge is also causing a nitrate problem in the groundwater (i.e., leaky lagoons), please be sure to complete Item C.5. Projects may receive points for both surface water and groundwater contamination.

B. Data on <u>Existing Surface Water Discharge</u>

page _____ **1. Discharge type:**

☐ Continuous

☐ Seasonal

☐ Intermittent **(*if CSO, or SSO, please complete Sections E and F below*)**

page _____ **2. Flow** *(identify whether units are MGD or MGY)* _____

page _____ **3. Identify Receiving Water and Type** _____

page _____ **4. Location** (*town, range, and section*) _____

page _____ **5. Existing Treatment**

☐ Untreated ☐ Secondary ☐ Combined Sewer Overflow ☐ Tertiary

☐ Primary (including septic system with direct surface water discharge)

page _____ **6. Existing Disinfection Process:**

☐ None

☐ Chlorination

☐ Other (*specify*) _____

C. Data on <u>Existing Groundwater Discharge</u>

page _____ **1. Discharge Type:**

☐ Continuous

☐ Seasonal

☐ Intermittent

page _____ **2. Flow** *(identify whether units are MGD or MGY)* _____

page _____ **3. Location** (*provide town, range, and section*) _____

page _____ **4. Existing Treatment**

☐ Untreated ☐ Primary (including septic with tile field) ☐ Secondary

page _____ **5. Nitrate contamination of public or private wells caused by the discharge of effluent/wastes from the treatment system or systems:**

☐ Public well(s) in vicinity contains nitrates > 10 mg/L (100 points)

☐ Private well(s) in vicinity contains nitrates > 10 mg/L (75 points)

☐ Monitoring well(s) in vicinity contains nitrates > 10 mg/L (50 points)*

☐ No evidence of nitrate contamination in local wells

*Note: If only the total inorganic nitrogen ("TIN" ammonia + nitrite + nitrate) concentration is available, a separate sampling and nitrate analysis should be performed to document the nitrate concentration.

D. Information on Proposed Surface Water/Groundwater Discharge (*attach additional pages if necessary; a copy of the effluent limits letter/permit table may suffice.*)

page _____ **1. Discharge Type:**

☐ Continuous

☐ Seasonal Identify all discharge points and receiving waters.

☐ Intermittent

page _____ **2. Average Design Flow** *(identify units as MGD or MGY)* _____

page _____ **3. Identify receiving water for a surface water discharge** _____

page _____ **4. Location** (*town, range, and section*) _____

5. List Effluent Limits:

Minimum Dissolved Oxygen _____

$CBOD_5$ _____

Ammonia _____

Phosphorus _____

TIN (Groundwater Permit) _____

Page _____ **6(a)Will the proposed facility address <u>documented</u> total residual chlorine (TRC) violations?**

☐ YES, proceed to 6(b) ☐ NO

6(b)Will the proposed disinfection improvements involve either dechlorination or an alternative disinfection technology (e.g. ultraviolet disinfection, ozonation) that eliminates the use of chlorine?

☐ YES ☐ NO

Data on Existing (Pre-Project) CSO and SSO Discharges

*Information must be provided **for each outfall** directly associated with the proposed correction project.*

Outfall #	Receiving Stream	Location* Town/Range/Section	Estimated Overflow Volume (MG) for 1-year, 1-hour storm event
001			

Outfall #	Estimated Overflow Duration (Hours)	Estimated Annual Overflow Volume (MG)	Tributary Residential Population
001			

E. Data on Future (Post-Project) CSO Discharges

List each outfall from Section E. For outfalls which will cease to function as combined sewer outfalls upon the completion of this project, simply enter "Eliminated" under Receiving Stream*. List any new outfalls (e.g., for a retention/treatment basin) created by this project and include its associated discharge data.*

Outfall #	Receiving Stream	Location* Town/Range/Section	Estimated Overflow Volume (MG) for 1-year, 1-hour storm event
001			

Outfall #	Estimated Overflow Duration (Hours)	Estimated Annual Overflow Volume (MG)	Detention Time Prior to Discharge for 1-year, 1-hour storm event
001			

* A map showing the discharge locations by number is highly preferable and can be attached to this sheet.

Please attach additional pages if necessary

ATTACHMENT D

Fundamentals of the Monetary Evaluation

Fundamentals of the Monetary Evaluation

WHAT: A comparison of the monetary costs of two or more alternatives being considered to address a common need and produce the same desired end.

WHY: To account for the fact that money changes value over time and to allow for an understandable comparison of more complex cash flows that take place over time.

HOW: A total present worth analysis.

COMPONENTS:

1. Planning Period = 20 years.

2. Capital Costs = All costs (immediate and future) to construct the proposed project, excluding sunk costs. Land costs can be escalated.

3. Capitalized Interest = Any interest costs incurred to "carry" the borrowing during construction (although capitalized interest will not normally be included in a revolving fund loan).

4. Operation, Maintenance, and Replacement (OM&R) Costs = All costs projected to be incurred to operate and maintain the treatment works facilities, both fixed and variable. Energy costs can be escalated.

5. Revenue Generated = Income from the treatment works operation (e.g., any crops produced, biosolids sold as fertilizer, power generated, etc.).

6. Salvage Value = The value of treatment works facilities at the end of the planning period. Facilities with a useful life that exceeds the planning period (except land) should be straight-line depreciated.

7. Discount Rate = The discount rate set by the U.S. EPA for the year in which project planning began.

KEYS:

1. All costs (except sunk costs) must be included, both eligible and ineligible.

2. Evaluation should not be done on a per-user basis but on the total project costs.

3. Each alternative must address the need that is identified in the project plan.

4. Alternatives must be equivalent. Each alternative must serve the same immediate customers and provide the same end-of-planning-period capacity.

PROCESS:

1. Determine the present worth of construction and OM&R components:

   a. One-Time Expenditures = Capital Costs

   $$PW = F * 1/(1 + i)^n$$

   F = the future value = the estimated project cost
   n = the number of years
   i = the EPA discount rate

   (= single payment present worth factor)

   b. Recurring Equal Expenditures = OM&R Costs

   $$PW = A * [(1 + i)^n - 1/i(1 + i)^n]$$

   A = the annual expenditure
   n = the number of years
   i = the EPA discount rate

   (= uniform series present worth factor)

   c. Recurring Escalating Expenditures = Energy Costs (if applicable)

   $$PW = A\{(1+E)/(i-E) * [1-[(1+E)/(1+i)]^n]\}$$

   A = the annual expenditure
   E = the rate of escalation
   n = the number of years
   i = the EPA discount rate

   (= gradient series present worth factor)

2. Combine the present worth of the construction and OM&R components.

3. Determine the salvage value and the present worth of the salvage value.

4. Determine the present value of capitalized interest and revenue generated, if appropriate.

5. Total Present Worth will be the present worth of the salvage value combined with the present worth of revenue generated subtracted from the present worth of capital costs, OM&R components, and capitalized interest.

ATTACHMENT E

Notice of Project Plan Public Hearing (Model)

NOTICE OF PUBLIC HEARING

The _____ will hold a public hearing on the proposed _____ project for the purpose of receiving comments from interested persons.

The hearing will be held at _____ p.m. on _____ at the following location: _____

The purpose of the proposed project is _____
_____
_____

Project construction will involve _____
_____
_____

Impacts of the proposed project include _____
_____
_____

The estimated cost to users for the proposed project will be _____
_____

Copies of the plan detailing the proposed project are available for inspection at the following location(s):
_____
_____
_____

Written comments received before the hearing record is closed on _____ will receive responses in the final project plan. Written comments should be sent to:
_____
_____
_____

ATTACHMENT F

Information Needed for a
State Historic Preservation Office Project Review

Instructions for Application for Section 106 Review

Section I: General Information

a. Please provide the name of your project.

b. Provide the street address of your project if applicable. If no street address exists please leave this blank.

c. Municipal unit is not always the mailing address of the project location. For example, if a mailing address lists Lansing as the city, yet the project is outside the city limits, then the township is the municipal unit.

d. Every project has a federal funding, licensing, or permitting agency. Include the name, address, and telephone number of the contact person at the federal agency. A federal agency or federally delegated authority contact is mandatory. Projects not receiving federal assistance, nor requiring a federal permit or license, are not subject to Section 106 review except in certain circumstances when mandated by state or local policy. If you do not know your federal agency please contact the party requiring you to apply for Section 106 review for this information.

e. Include the name, address, and telephone number of the contact person at the state agency. If this is a grant program note the name of the program (i.e. CDBG, HOME, TEA-21, etc.)

f. Please provide the name, address, telephone number, and email address of the contact person to who questions may be directed.

Section II: Ground Disturbing Activity

a. Provide a USGS 7.5 minute quadrangle map with the location clearly marked. An entire quad map does not have to be submitted, an 8.5x11 inch portion of the map may be submitted. Map scale must be 1:24000. Photocopies are acceptable as long as the map and location are clear. Street maps and platt maps are not acceptable substitutes. Provide the name of the quadrangle map.

b. Township, Range and Section refer to the coordinates of the project location. These are numbers such as T21N, R2W, Section 12. Do not put names of townships in this location. Alternative coordinates, such as UTM, may be submitted in addition to the Township, Range and Section.

c. Describe the proposed dimensions of ground disturbing activity. Plans and specifications should not be substituted here. Example: 4 feet wide, 20 feet long, 2 feet deep.

d. Describe the previous use of the land. Was it farm land, an industrial site, a homestead, etc.? Was there a utility corridor placed on the property, were sewer and waterlines placed there 10 years ago, etc.?

e. Describe the current use and condition of the property.

f. Ask the landowner(s) if they are aware of any artifacts being discovered on the property at any point in time. Include their description of items that have been found, if any.

Section III: Project Work Description and Area of Potential Effects

a. This is a detailed description of the work that will be undertaken. Include any information about building removals, rehabilitation, and landscape alteration such as sidewalk or tree removals. The SHPO is mandated to assess the effects that a project will have on the historic built environment. Economic benefits, impacts to the natural and social environment are not relevant unless these bear some connection to the integrity of the historic built environment.

b. Localized map highlighting the location of the project (i.e. a copy of a portion plat or a city street map). Maps must provide the precise location of the project. If the project will occur in several locations (i.e. curb and gutter replacement at several places along a roadway), all such locations must be noted. Please ensure that street/road names are included and legible.

c. Draw/Outline/Highlight the APE for your project.

d. *The terms "not applicable" or "unknown" are not acceptable responses.* Describe the steps taken to identify the area of potential effects and justify the boundaries chosen. The **area of potential effects** is defined as the geographic area or areas within which an undertaking may directly, or indirectly, cause changes in the character or use of historic properties. *In most instances, the area of potential effects is not simply the project's physical boundaries, or right-of-way.* The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by an undertaking. In defining the APE, you must consider not only physical effects but also visual, auditory, and sociocultural (i.e. land use, traffic patterns, public access) effects.

Section IV: Identification of Historic Properties

a. List and provide construction dates for all properties 50 years of age or older located in the APE. The terms *"not applicable"* or *"unknown"* are not acceptable responses. If research has been done and no approximate date is found, the term "not found" is acceptable. If your project is located in a National Register eligible, listed or local historic district it is not necessary to list every structure. Identify the district and describe its general characteristics and range of construction dates.

b. A historic property is defined as any prehistoric or historic district, site, building, structure, or object that is 50 years of age or older and is listed in, or eligible for listing in, the National Register of Historic Places. It is your responsibility to make a reasonable and good faith effort to carry out appropriate identification efforts, which *may* include background research, consultation, oral history interviews, sample field investigation, and field survey. Michigan Sites-On-Line is a directory of properties listed in the National Register (www.michigan.gov/shpo). This directory, however, does not include properties eligible for listing in the National Register, and simply searching this directory does not fulfill your responsibility to identify historic properties. *The SHPO does not conduct research.*

c. Please choose one.

d. Please describe the condition, previous disturbance to and history of any historic property located in the APE and identified on section IV of this form.

e. Key identified historic properties onto a localized map. This can be the same map that was created in Section III.b,c.

Section V: Photographs

Faxed or photocopied photographs are not acceptable. Photographs may be color or black and white. Printed digital photographs are acceptable provided they have a high dpi and clear resolution. Photographs must provide clear views (i.e. subject of the photograph should not be obscured by shadows, trees, cars, or any other type of obstruction) of any historic properties in the project's area of potential effects. If submitting a project which is, or may be in, a historic district (especially in commercial or residential neighborhoods fifty years of age or older) please submit representative streetscape views of the built environment in the project's area of potential effects to provide the SHPO with an idea of the architectural context. Remember to key all photographs to your localized map.

a. Please photograph the location where the project will be taking place. If the project covers a large area, please provide several views.

b. Please provide photographs of properties identified in Section IV.a. If the project is located in a National Register eligible, listed or local historic district it is not necessary to photograph every structure. Streetscape photographs that clearly illustrate the district are sufficient.

Section VI: Determination of Effect

Following a reasonable and good faith effort to identify historic properties within the project's area of potential effects, provide the SHPO with your finding of the project's effect upon historic properties within the project's area of potential effects.

a. For a determination of: (1) *no historic properties affected* [36 CFR § 800.4(d)(1)] in which there are either no historic properties present or no historic properties affected, include the basis for this determination.

b. For a determination of: *no adverse effect* [36 CFR § 800.5(b)]; explain why the criteria of adverse effect [36 CFR § 800.5(a)(1)] were not found applicable and include any conditions to avoid, minimize, or mitigate adverse effects. Adverse effects must be resolved in consultation with the SHPO pursuant to 36 CFR § 800.6. Please indicate the efforts undertaken to seek views provided by consulting parties and the public pursuant to 36 CFR § 800.6(a)(4), and provide copies or summaries of this information to the SHPO.

c. For a determination of: *adverse effect* [36 CFR § 800.5(d)(2)]; explain why the criteria of adverse effect [36 CFR § 800.5(a)(1)] were found applicable and include any conditions to avoid, minimize, or mitigate adverse effects. Adverse effects must be resolved in consultation with the SHPO pursuant to 36 CFR § 800.6. Please indicate the efforts undertaken to seek views provided by consulting parties and the public pursuant to 36 CFR § 800.6(a)(4), and provide copies or summaries of this information to the SHPO.

Questions: Please contact the Environmental Review Staff

Diane Tuinstra
Environmental Review Assistant
U.S. Department of Housing and Urban Development (HUD) projects including Michigan Economic Development Corporation (MEDC) and Michigan State Housing Development Authority (MSHDA) projects only.
(517) 335-2723
tuinstrad@michigan.gov
Brian Grennell
Environmental Review Specialist
(517) 335-2721
grennellb@michigan.gov

STATE HISTORIC PRESERVATION OFFICE

Application for Section 106 Review

SHPO Use Only

☐ IN Received Date ____ / ____ / ____ Log In Date ____ / ____ / ____

☐ OUT Response Date ____ / ____ / ____ Log Out Date ____ / ____ / ____

Sent Date ____ / ____ / ____

Submit one copy for each project for which review is requested. This application is required. Please type. Applications must be complete for review to begin. Incomplete applications will be sent back to the applicant without comment. Send only the information and attachments requested on this application. Materials submitted for review cannot be returned. Due to limited resources we are unable to accept this application electronically.

I. GENERAL INFORMATION

☐ THIS IS A NEW SUBMITTAL ☐ THIS IS MORE INFORMATION RELATING TO ER#

- ☐ Funding Notice
- ☐ Survey
- ☐ MOA or PA
- ☐ Other:

a. Project Name:
b. Project Address (if available):
c. Municipal Unit: County:
d. Federal Agency and Contact (*If you do not know the federal agency involved in your project please contact the party requiring you to apply for Section 106 review, not the SHPO, for this information*.):
e. State Agency and Contact (if applicable):
f. Consultant or Applicant Contact Information (if applicable):

II. GROUND DISTURBING ACTIVITY (INCLUDING EXCAVATION, GRADING, TREE REMOVALS, UTILITY INSTALLATION, ETC.)

DOES THIS PROJECT INVOLVE GROUND-DISTURBING ACTIVITY? ☐ YES ☐ NO (If no, proceed to section III.)

Exact project location must be submitted on a USGS Quad map (portions, photocopies of portions, and electronic USGS maps are acceptable as long as the location is clearly marked).

a. USGS Quad Map Name:
b. Township: Range: Section:
c. Description of width, length and depth of proposed ground disturbing activity:
d. Previous land use and disturbances:
e. Current land use and conditions:
f. Does the landowner know of any archaeological resources found on the property? YES
   Please describe:

III. PROJECT WORK DESCRIPTION AND AREA OF POTENTIAL EFFECTS (APE)

Note: Every project has an APE.

a. Provide a detailed written description of the project (plans, specifications, Environmental Impact Statements (EIS), Environmental Assessments (EA), etc. **cannot** be substituted for the written description):
b. Provide a localized map indicating the location of the project; road names must be included and legible.
c. On the above-mentioned map, identify the APE.
d. Provide a written description of the APE (physical, visual, auditory, and sociocultural), the steps taken to identify the APE, and the justification for the boundaries chosen.

IV. IDENTIFICATION OF HISTORIC PROPERTIES

a. List and date **all** properties 50 years of age or older located in the APE. If the property is located within a National Register eligible, listed or local district it is only necessary to identify the district:

b. Describe the steps taken to identify whether or not any **historic** properties exist in the APE and include the level of effort made to carry out such steps:

c. Based on the information contained in "b", please choose one:
   - ☐ Historic Properties Present in the APE
   - ☐ No Historic Properties Present in the APE

d. Describe the condition, previous disturbance to, and history of any historic properties located in the APE:

V. PHOTOGRAPHS

Note: All photographs must be keyed to a localized map, and should be included as an attachment to this application.

a. Provide photographs of the site itself.

b. Provide photographs of all properties 50 years of age or older located in the APE (faxed or photocopied photographs are not acceptable).

VI. DETERMINATION OF EFFECT

☐ No historic properties affected based on [36 CFR § 800.4(d)(1)], please provide the basis for this determination.

☐ No Adverse Effect [36 CFR § 800.5(b)] on historic properties, explain why the criteria of adverse effect, 36 CFR Part 800.5(a)(1), were found not applicable.

☐ Adverse Effect [36 CFR § 800.5(d)(2)] on historic properties, explain why the criteria of adverse effect, [36 CFR Part 800.5(a)(1)], were found applicable.

Please print and mail completed form and required information to:

State Historic Preservation Office, Environmental Review Office, Michigan Historical Center, 702 W. Kalamazoo Street, P.O. Box 30740, Lansing, MI 48909-8240

ATTACHMENT G

National Natural Landmarks in Michigan

National Natural Landmarks in Michigan

Designated Landmarks in Upper Peninsula Counties

1. Dukes Research Natural Area (Marquette County): 231 acres in the U.S. Forest Service Upper Peninsula Experimental Station, 22 miles southeast of Marquette near Maple Grove.

2. Porcupine Mountains (Gogebic and Ontonagon Counties): 47,761 acres on the southern shore of Lake Superior, 14 miles north of Wakefield.

3. Strangmoor Bog (Schoolcraft County): 9,700 acres within the Seney National Wildlife Refuge, 14 miles southwest of Seney.

Designated Landmarks in Lower Peninsula Counties

1. Black Spruce Bog Natural Area (Jackson County): 120 acres within the Waterloo State Recreation Area, 5 miles south of Stockbridge.

2. Dead Stream Swamp (Missaukee and Roscommon Counties): 11,680 acres on the western shore of Houghton Lake, 4 miles northwest of Houghton Lake Heights.

3. Grand Mere Lakes (Berrien County): 1,200 acres on the shore of Lake Michigan, 1 mile southwest of Stevensville.

4. Haven Hill State Natural Area (Oakland County): 546 acres within the Highland State Recreation Area, 3 miles northeast of Milford.

5. Newton Woods (Cass County): 40 acres in the vicinity of the Goff Lakes, 1½ miles southwest of Marcellus.

6. Roscommon Virgin Pine Stand (Roscommon County): 16 acres in the Au Sable State Forest, 8 miles north of St. Helen near Keno.

7. Tobico Marsh (Bay County): 956 acres on the western shore of Saginaw Bay, 7 miles north of Bay City.

8. Toumey Woodlot (Ingham County): 24 acres within the boundaries of the Michigan State University campus, 2½ miles south of Okemos.

9. Warren Woods Natural Area (Berrien County): 312 acres by the Galien River, 2½ miles northwest of Three Oaks.

Maps of specific locations are available upon request.

ATTACHMENT H

Regional Planning Agency Addresses

Regional Planning Agency Addresses

Region 1: Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties

Southeast Michigan Council of Governments (SEMCOG)
535 Griswold Street, Suite 300
Detroit, MI 48226-3602

Region 2: Hillsdale, Jackson, and Lenawee Counties

Region 2 Planning Commission
120 West Michigan Avenue
Jackson, MI 49201

Region 3: Barry, Branch, Calhoun, Kalamazoo, and St. Joseph Counties

Southcentral Michigan Planning Council
PO Box 2137
Portage, MI 49081

Region 4: Berrien, Cass, and Van Buren Counties

Southwestern Michigan Commission
185 East Main Street, Suite 701
Benton Harbor, MI 49022

Region 5: Genesee, Lapeer, and Shiawassee Counties

Genesee County Metropolitan Planning Commission
1101 Beach Street, Room 223
Flint, MI 48502

Region 6: Clinton, Eaton, and Ingham Counties

Tri-County Regional Planning Commission
913 West Holmes Road, Suite 201
Lansing, MI 48910

Region 7: Arenac, Bay, Clare, Gladwin, Gratiot, Huron, Iosco, Isabella, Midland, Ogemaw, Roscommon, Saginaw, Sanilac, and Tuscola Counties

East Central Michigan Planning & Development Regional Commission
3144 Davenport Avenue, Suite 200
Saginaw, MI 48602-3494

Regional Planning Agency Addresses

Region 8: Allegan, Ionia, Kent, Mecosta, Montcalm, Osceola, and Ottawa Counties

West Michigan Regional Planning Commission
820 Monroe Avenue, NW, Suite 214
Grand Rapids, MI 49503

Region 9: Alcona, Alpena, Cheboygan, Crawford, Montmorency, Oscoda, Otsego, and Presque Isle Counties

Northeast Michigan Council of Governments
PO Box 457
Gaylord, MI 49735

Region 10: Antrim, Benzie, Charlevoix, Emmet, Grand Traverse, Kalkaska, Leelanau, Manistee, Missaukee, and Wexford Counties

Northwest Michigan Council of Governments
PO Box 506
Traverse City, MI 49685

Region 11: Chippewa, Luce, and Mackinac Counties

Eastern Upper Peninsula Regional Planning & Development Commission
PO Box 520
Sault Ste Marie, MI 49783

Region 12: Alger, Delta, Dickinson, Marquette, Menominee, and Schoolcraft Counties

Central Upper Peninsula Planning & Development Regional Commission
2415 14th Avenue, South
Escanaba, MI 49829

Region 13: Baraga, Gogebic, Houghton, Iron, Keweenaw, and Ontonagon Counties

Western Upper Peninsula Planning & Development Regional Commission
PO Box 365
Houghton, MI 49931

Region 14: Lake, Mason, Muskegon, Newaygo, and Oceana Counties

West Michigan Shoreline Regional Development Commission
PO Box 387
Muskegon, MI 49443-0387

ATTACHMENT I

Tribal Historic Preservation Officers

The following Tribes should be contacted when you have information requests in the following counties in the state of Michigan.

Genesee, Lapeer, Lenawee, Livingston, Macomb, Monroe, Oakland, Shiawassee, St. Clair, Washtenaw, and Wayne counties.
Please contact the following tribes:

1. Bay Mills Indian Community
   Wanda Perron
   12214 W. Lakeshore Drive
   Brimley, MI 49715-9320
   1-906-248-3354 ext. 4212
   history@baymills.org
2. Burt Lake Band of Ottawa & Chippewa Indians
   Curtis Chambers
   6461 Brutus Road
   P.O. Box 206
   Brutus, MI 49716
   1-231-529-6113
   blbtc@burtlakeband.org
3. Grand River Band of Ottawa Indians
   Ron Yob
   1251 Plainfield NE Ste B
   PO Box 2937
   Grand Rapids, MI 49501
   1-616-458-8759
   Fax 1-616-458-9039
   ron_yob@yahoo.com
4. Grand Traverse Band of Ottawa and Chippewa Indians
   Robert Kewaygoshkum
   2605 NW Bayshore Drive
   Peshawbetown, MI 49682
   1-231-271-3538
   gtb@gtb.nsn.us
5. Hannahville Potawatomi Indian Community
   Earl Meshigaud
   14911 Hannahville B-1 Road
   Wilson, MI 49896
   1-906-466-2932 ext. 124
   earlmeshigaud@hannahville.org
6. Keweenaw Bay Indian Community
   Summer Sky Cohen
   16429 Beartown Road
   Baraga, MI 49908
   1-906-353-6272 ext. 6272
   schoen@kbic-nsn.gov
7. Lac Vieux Desert Band of Lake Superior Chippewa Indians
   Giiwegiizhigookway Martin
   P.O. Box 249
   Watersmeet, MI 49969
   1-906-358-0137
   gmartin@lvdtribal.com
8. Little River Band of Ottawa Indians
   Jay Sam
   375 River Street
   Manistee, MI 49660
   1-231-398-2220
   jsam@lrboi.com
9. Little Traverse Bay Band of Odawa
   Winnay Wemigwase
   7500 Odawa Circle
   Harbor Springs, MI 49740
   1-231-242-1455
   wwemigwase@tbbodawa-nsn.gov
10. Match-e-be-nash-shee-wish Band of Potawatomi Indians
    Ed Pigeon
    P.O. Box 218
    Dorr, MI 49323
    1-616-681-9510 ext. 342
    espigeon@mbpi.org
11. Nottawaseppi Band of Huron Potawatomi
    RoAnn Beebe
    2221 1 ½ Mile Road
    Fulton, MI 49052
    1-269-729-5151
12. Pokagon Band of Potawatomi
    Mark Parrish
    P.O. Box 180
    Dowagiac, MI 49047
    1-269-782-9602
13. Saginaw Chippewa Indian Tribe of MI
    William Johnson
    6650 E. Broadway
    Mt. Pleasant, MI 48858
    1-989-775-4730
    wjohnson@sagchip.org
14. Sault Ste. Marie Tribe of Chippewa
    Cecil E. Pavlat Sr.
    523 Ashmun
    Sault Ste. Marie, MI 49783
    1-906-635-6050 ext. 26151

The following Tribes should be contacted when you have information requests in the following counties in the state of Michigan:

Allegan, Barry, Berrien, Branch, Calhoun, Cass, Hillsdale, Ionia, Jackson, Kalamazoo, Kent, Ottawa, St. Joseph, and Van Buren counties.
Please contact the following tribes:

1. Grand River Band of Ottawa Indians
   Ron Yob
   1251 Plainfield NE Ste B
   PO Box 2937
   Grand Rapids, MI 49501
   1-616-458-8759
   Fax 1-616-458-9039
   ron-yob@yahoo.com
2. Hannahville Potawatomi Indian Community
   Earl Meshigaud
   14911 Hannahville B-1 Road
   Wilson, MI 49896
   1-906-466-2932 ext. 124
   earlmeshigaud@hannahville.org
3. Little River Band of Ottawa Indians
   Jay Sam
   375 River Street
   Manistee, MI 49660
   1-231-398-2220
   jsam@lrboi.com
4. Match-e-be-nash-shee-wish Band of Potawatomi Indians
   Ed Pigeon
   P.O. Box 218
   Dorr, MI 49323
   1-616-681-9510 ext. 342
   espigeon@mbpi.org
5. Nottawaseppi Band of Huron Potawatomi
   RoAnn Beebe
   2221 1 ½ Mile Road
   Fulton, MI 49053
   1-269-729-5151
6. Pokagon Band of Potawatomi
   Mark Parrish
   P.O. Box 180
   Dowagiac, MI 49047
   1-269-782-9602

The following tribes should be contacted when you have information requests in the following counties in the state of Michigan.

Alpena, Antrim, Benzie, Charlevoix, Cheboygan, Crawford, Emmet, Grand Traverse, Kalkaska, Lake, Leelanau, Manistee, Mason, Mecosta, Missaukee, Montcalm, Montmorency, Muskegon, Newaygo, Oceana, Osceola, Otsego, Presque Isle, Roscommon, and Wexford counties.
Please contact the following tribes:

1. Burt Lake Band of Ottawa & Chippewa Indians
   Curtis Chambers
   6461 Brutus Road
   P.O. Box 206
   Brutus, MI 49716
   1-231-529-6113
   blbtc@burtlakeband.org
2. Grand River Band of Ottawa Indians
   Ron Yob
   1251 Plainfield NE Ste B
   PO Box 2937
   Grand Rapids, MI 49501
   1-616-458-8759
   Fax 1-616-458-9039
   ron-yob@yahoo.com
3. Grand Traverse Band of Ottawa and Chippewa Indians
   Robert Kewaygoshkum
   2605 NW Bayshore Drive
   Peshawbetown, MI 49682
   1-231-271-3538
   gtb@gtb.nsn.us
4. Little River Band of Ottawa Indians
   Jay Sam
   375 River Street
   Manistee, MI 49660
   1-231-398-2220
   jsam@lrboi.com
5. Little Traverse Bay Band of Odawa
   Winnay Wemigwase
   7500 Odawa Circle
   Harbor Springs, MI 49740
   1-231-242-1455
   wwemigwase@tbbodawa-nsn.gov

The following tribes should be contacted when you have information requests in the following counties in the state of Michigan.

Alcona, Arenac, Bay, Clare, Clinton, Eaton, Gladwin, Gratiot, Huron, Ingham, Iosco, Isabella, Midland, Ogemaw, Oscoda, Saginaw, Sanilac, and Tuscola counties.
Please contact the following tribes:

1. Grand River Band of Ottawa Indians
   Ron Yob
   1251 Plainfield NE Ste B
   PO Box 2937
   Grand Rapids, MI 49501
   1-616-458-8759
   Fax 1-616-458-9039
   ron-yob@yahoo.com
2. Nottawaseppi Band of Huron Potawatomi
   RoAnn Beebe
   2221 1 ½ Mile Road
   Fulton, MI 49053
   1-269-729-5151
3. Saginaw Chippewa Indian Tribe of MI
   William Johnson
   6650 E. Broadway
   Mt. Pleasant, MI 48858
   1-989-775-4730
   wjohnson@sagchip.org

The following tribes should be contacted when you have information requests in the following counties in the state of Michigan.

Alger, Chippewa, Delta, Luce, Mackinaw, and Schoolcraft counties.
Please contact the following tribes:

1. Bay Mills Indian Community
   Wanda Perron
   12214 W. Lakeshore Drive
   Brimley, MI 49715-9320
   1-906-248-3354 ext. 4212
   history@baymills.org
2. Hannahville Potawatomi Indian Community
   Earl Meshigaud
   14911 Hannahville B-1 Road
   Wilson, MI 49896
   1-906-466-2932 ext. 124
   earlmeshigaud@hannahville.org
3. Little Traverse Bay Band of Odawa
   Winnay Wemigwase
   7500 Odawa Circle
   Harbor Springs, MI 49740
   1-231-242-1455
   wwemigwase@tbbodawa-nsn.gov
4. Sault Ste. Marie Tribe of Chippewa
   Cecil E. Pavlat Sr.
   523 Ashmun
   Sault Ste. Marie, MI 49783
   1-906-635-6050 ext. 26151
5. Lac Vieux Desert Band of Lake Superior Chippewa Indians
   Giiwegiizhigookway Martin
   P.O. Box 249
   Watersmeet, MI 49969
   1-906-358-0137
   gmartin@lvdtribal.com

The following Tribes should be contacted when you have information requests in the following counties in the state of Michigan.

Baraga, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Marquette, Menominee, and Ontonagon counties. Please contact the following tribes:

1. Hannahville Potawatomi Indian Community
   Earl Meshigaud
   14911 Hannahville B-1 Road
   Wilson, MI 49896
   1-906-466-2932 ext. 124
   earlmeshigaud@hannahville.org
2. Keweenaw Bay Indian Community
   Summer Sky Cohen
   16429 Beartown Road
   Baraga, MI 49908
   1-906-353-6272 ext. 6272
   schoen@kbic-nsn.gov
3. Lac Vieux Desert Band of Lake Superior Chippewa Indians
   Giiwegiizhigookway Martin
   P.O. Box 249
   Watersmeet, MI 49969
   1-906-358-0137
   gmartin@lvdtribal.com
4. Sault Ste. Marie Tribe of Chippewa
   Cecil E. Pavlat Sr.
   523 Ashmun
   Sault Ste. Marie, MI 49783
   1-906-635-6050 ext. 26151